2021

Self-Efficacy: Nurses' Perceptions of Caring for Patients Living with Diabetes

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SELF-EFFICACY: NURSES' PERCEPTIONS OF CARING FOR PATIENTS LIVING WITH DIABETES

Presented in Partial Fulfillment of the
Requirements for the Degree of
Doctor of Philosophy in Nursing Education

Ron and Kathy Assaf College of Nursing
Nova Southeastern University

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2021

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Dedication

I dedicate my doctoral dissertation to my beloved family. Words alone cannot express my gratitude for the loving encouragement that I received from my husband and soulmate, Matthew Scott McCue, and my two beautiful children, Matthew and Bridget. From the beginning of my doctoral journey, my family has unconditionally supported me every step of the way, and I thank God for each of them.

Acknowledgments

I admiringly acknowledge the support and dedication of my dissertation committee, Dr. Jacquie Marshall, Dr. Holly Evans Madison, and Dr. Marcia J. Derby-Davis. I would like to thank both Dr. Madison and Dr. Derby-Davis, my committee members, for their expertise and guidance. My sincerest appreciation to my chairperson, Dr. Marshall, for her unwavering positive support throughout the entire dissertation process. Thank you, Dr. Marshall, for your expertise and continuous encouragement.

I would like to acknowledge the Nova Southeastern University Faculty for their support and contributions to my scholarly and professional development. Additionally, I would like to recognize and thank Dr. Linda Evans for inspiring and guiding me during the early stages of my doctoral journey.

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Abstract

Diabetes is an epidemic that affects over 415 million people worldwide. In the United States, the number of people diagnosed with diabetes is projected to triple to over 60 million by 2060. With this surge, the number of hospitalizations across the country has significantly increased. Direct care nurses play a vital role in the management of patients living with diabetes. The purpose of this research study was to explore and describe medical-surgical nurses' perceptions of self-efficacy related to caring for patients living with diabetes. This study's guiding research question was: What are nurses' perceptions on the influences that impact self-efficacy in caring for patients living with diabetes on a medical-surgical unit? Bandura's Self-Efficacy Theory provided the conceptual framework of this study and guided the development of the interview questions and the analysis of the data. A qualitative descriptive design using a constant comparative analysis method, as described by Strauss and Corbin (1990), was utilized. A purposive, convenience sampling plan was used to recruit eight medical-surgical nurses from two acute care hospitals in the Southeastern United States. Four major themes were revealed in this study: (a) educational preparation, (b) biases towards patients, (c) current clinical environment, and (d) patients' behaviors affect nurses' emotions. Additionally, six subthemes were identified. This study's results may inform targeted interventions that promote improved self-efficacy among medical-surgical nurses resulting in optimal patient outcomes for people living with diabetes.

Chapter One
Problem and Domain of Inquiry

Diabetes constitutes a growing global public health crisis affecting 415 million people worldwide and is one of the significant causes of disease morbidity and mortality in the United States (CDC, 2019; Rodriguez et al., 2019). Roughly 30 million Americans have diabetes, and the number is expected to soar as approximately 84 million American adults, more than 1 out of 3, have prediabetes, and 90% are not even aware of it (CDC, 2019). By 2060, the number of adults in the United States with diabetes is projected to nearly triple to 60.6 million (Lin et al., 2018).

Diabetes mellitus (DM) is a disease that prevents the body from properly using the energy from food and affects the body's ability to produce or use insulin (ADA, 2019). The term diabetes describes a group of metabolic disorders characterized and identified by hyperglycemia in the absence of treatment (WHO, 2019). According to the World Health Organization (WHO, 2019), there are two major types of DM. Type 1 diabetes mellitus (T1DM) is an autoimmune disease in which the body attacks its pancreas with antibodies. In contrast, type 2 diabetes mellitus (T2DM) develops when the body becomes resistant to insulin, or the pancreas becomes unable to generate enough insulin (Grant, 2019).

Direct care nurses are essential in managing patients living with diabetes and must be competent to provide optimal diabetes care (Alotaibi et al., 2016; Carey et al., 2018; Mays, 2015; Modic et al., 2014; Silva Paraizo et al., 2018). Inadequate knowledge of trends in diabetes management can affect the quality of care hospitalized patients with diabetes receive, resulting in longer lengths of stay and increased readmission rates (Daly et al., 2018). Moreover, this population of patients is at risk of serious complications such as infections, pressure ulcers, falls, and harmful or even deadly hypoglycemia or hyperglycemia fluctuations (Carey et al.,

2018). Because of the growing number of hospitalized patients living with diabetes, direct care nurses must be fully competent to care for this population (Alotaibi et al., 2016; Funnell & Freehill, 2018; Lange & Pearce, 2017; Young, 2011).

Problem Statement

Patients living with diabetes who do not receive optimal care may have devastating outcomes (Lange & Pearce, 2017). The literature has demonstrated that direct care nurses lack the knowledge and confidence to adequately care for patients living with diabetes (Alotaibi et al., 2016; Modic et al., 2014, Rayman, 2015; Yacoub, 2014). Additionally, there is a scarcity of research exploring and describing nurses' perceptions about caring for this population.

Purpose of the Study

The purpose of the study was to explore and describe the medical-surgical nurses' perception of self-efficacy related to caring for patients living with diabetes.

Research Question

What are nurses' perceptions on the influences that impact self-efficacy in caring for patients living with diabetes on a medical-surgical unit?

Significance of the Study

The goal of research is to generate new knowledge (Considine et al., 2017). The importance of research to the nursing profession goes beyond the simplicity of discovering new knowledge. Nursing is a profession, not just a skilled practice. The science of nursing has its own language, theories, and research areas (Ziebarth, 2016). According to the American Association of Colleges of Nursing (AACN), nursing research provides a body of knowledge that helps advance nursing practice (AACN, 2019). Conducting robust research provides the foundation for high-quality, evidence-based care; thus, improving patient outcomes (Broome, 2018; Tingen et al., 2009).

Patient outcomes are directly related to nurses' level of care (Recio-Saucedo et al., 2018). Coster et al. (2018) purported that well-educated nurses can decrease the threat of patient mortality. However, when there is a deficiency in knowledge and or confidence, patient outcomes can be negatively affected (Alotaibi et al., 2016, 2018; Molayaghobi et al., 2019; Pichardo-Lowden et al., 2017). By generating knowledge about nurses' perceptions on influences that impact nurses' self-efficacy in caring for patients living with diabetes, the study has contributed to nursing education, practice, research, and public policy.

Nursing Education

The Institute of Medicine (IOM, 2011) and Benner et al. (2010) have urged nursing academia to make changes within the nursing curriculum to prepare students to practice competently within the growing and changing healthcare system. The study is congruent with the IOM's recommendation that faculty and healthcare organizations partner to develop and prioritize competencies so that nursing students are prepared to care for all populations' health needs (IOM, 2011). By exploring and describing the influences that impact nurses' self-efficacy when caring for patients living with diabetes, the study has brought new understanding to this phenomenon. It will help educators develop interventions to support nurses and improve their self-efficacy.

Nursing Practice

Nursing is regarded as one of the most trusted professions in the United States (Martin, 2019; Milton, 2018; Morrow, 2018; Stephenson, 2017; Stone, 2019). Nurses establish a trusting relationship with patients and families by upholding the nursing profession's values and ethics (Milton, 2018) and providing competent care. Nursing competency is often regarded as the

assimilation of complex knowledge in which nurses incorporate their acquired knowledge, skills, and individual attributes into each situation (Fukada, 2018).

Souza and Alves (2015) asserted that nurse competence is defined not only by knowledge but the ability to deliver safe and quality care. According to Feliciano et al. (2019), adverse patient outcomes have increased due to nurses not upholding optimum competencies. Furthermore, the IOM (2011) has recommended that healthcare organizations ensure direct care nurses are current with the newest knowledge surrounding diabetes management if they are to practice to the full extent of their education and training. Interventions such as continuing education (CE) for nurses cannot be developed without understanding the influences that impact optimal care delivery.

The nursing practice must evolve to deliver the needed level of quality care, especially for patients living with diabetes (Sullivan, 2018). The study has generated new knowledge surrounding this phenomenon and will assist healthcare organizations in implementing interventions that will improve nurses' self-efficacy in caring for patients living with diabetes. Understanding nurses' perceptions that contributed to suboptimal care has generated new knowledge meaningful to nursing practice.

Nursing Research

Nursing research advances knowledge to build a scientific foundation for clinical practice, thus improving nursing practice (National Institutes of Nursing Research [NINR], 2016). Furthermore, nursing research sets a standard to describe patient care and direct strategic improvements (Ditomassi et al., 2016). The National League of Nursing (NLN) education research properties have challenged nurse researchers to further the science of nursing education by conducting robust studies with reliable and detailed methodologies that generate a new

understanding of a phenomenon (2016). The study results have contributed to nursing research by creating new knowledge regarding nurses' perceptions that impact self-efficacy in caring for patients with diabetes.

Policy

Research is meaningful when it promotes the best science and, perhaps most importantly, contributes to the evidence that informs policy to improve health (Minkovitz, 2016). Effective policies must be enacted to address chronic diseases such as diabetes at the local, state, and federal levels (Herman and Cefalu, 2015). Healthcare policies need to be reevaluated since the burden of diabetes is not decreasing, and the onus is expected to increase societally and financially (Panton et al., 2018; Shaikh et al., 2018).

Healthcare providers, such as nurses, are in the perfect position to advocate for policies that support public health and clinical interventions for people living with diabetes (Moulton et al., 2013). However, nurses who lack diabetes management knowledge are not in the best position to support strategies that address public health priorities. The study explored and described the perceptions of the influences that impact care at the bedside. This study will lead to interventions to improve nurses' self-efficacy, thus enabling nurses to implement policies to manage diabetes and translate the evidence base for diabetes care into effective policies (Moulton et al., 2013).

Philosophical Underpinnings

A research paradigm or worldview is defined as a philosophical framework or set of beliefs that can guide a research study (Gordon, 2016). According to Creswell (2014), Worldviews are a general philosophical orientation about the world and the nature of research that an individual brings to a study and governs how we ask research questions and conduct

research. Utilizing a worldview as the foundation for a research study can be valuable to the researcher, hence helping to improve the rigor of the study (Abramson et al., 2018).

Constructivism/Naturalistic Paradigm

Qualitative research collects qualitative data such as words, images, and pictures within the Constructivism paradigm and asserts that reality is subjective rather than objective (Christensen et al., 2014; Corry et al., 2019). The constructivist paradigm, also referred to as a naturalistic paradigm, accepts reality as a construct of a person's mind, supporting an anti-positivist approach to data collection and analysis (Polit & Beck, 2017). Qualitative research, including qualitative descriptive design, is rooted in Constructivism and aims to explore and describe the context of naturally occurring events (Davies & Fisher, 2018). According to Polit and Beck (2017), qualitative inquiry, aligning with the philosophical underpinnings of constructivism, is a product of intelligence interacting with experience in the real world.

Research Tradition

Qualitative Research

Research approaches are the methods researchers use to structure a study to understand a phenomenon (Polit & Beck, 2017). All qualitative methodologies have the general steps of research in common; identification of a topic, develop a question, collect data, data analysis, and the research report (Cypress, 2018). However, each approach possesses unique variations. The research question sets the foundation for which qualitative methodology will be employed (Willis et al., 2016). According to Polit and Beck (2017), qualitative studies are embedded in research traditions that originated in anthropology, psychology, and sociology.

Qualitative Descriptive Approach

Unlike other qualitative methodologies such as phenomenology or grounded theory, the goal of qualitative descriptive research is not to discover, explain, seek an understanding, or

understand the lived experiences, but to describe a phenomenon in easily understood language (Doody & Bailey, 2016). The inquiry of the study was to describe a phenomenon. A qualitative descriptive approach, as defined by Sandelowski (2000), was the methodology for the research study. Sandelowski (2000) asserted that a qualitative descriptive design is used when little is known about a topic and allows the researcher to stay close to the data without viewing it through a predetermined philosophical lens (Sandelowski, 2000). Furthermore, it is useful when researchers strive to know the who, what, where, and how of a phenomenon (Sandelowski, 2000). Hence, qualitative description allows a unique opportunity to produce a rich description of a phenomenon (Sandelowski, 2000). Accordingly, qualitative description was utilized to collect medical-surgical nurses' perceptions of the influences that impact their self-efficacy while caring for patients living with diabetes.

Theoretical Framework: Self-Efficacy Theory

Nursing theories serve as a foundation for the nursing profession by developing nursing knowledge, guiding practice, education, and research (Meleis, 2018; Ocampo, 2014). Additionally, learning theories can guide the development, implementation, and analysis of a research study.

Learning theories such as Bandura's Self-Efficacy Theory can be fundamental in providing the framework for inquiries associated with an individual's belief in their ability to complete a task or achieve a goal (Bandura, 1977). The theory is based on the principal assumption that psychological procedures, whatever their form, serve as a means of creating and strengthening expectations of personal efficacy. The underlying principle of the Self-Efficacy Theory is that people who have high self-efficacy will likely participate in an activity, whereas people with low self-efficacy will not (Bandura, 1977). Bandura's social cognitive theory

described how individuals' self-judgment of their capabilities determines how they behave, their thoughts, and their emotional reactions, which are considered self-efficacy (Bandura, 1988).

The self-efficacy component of Bandura's social-cognitive theory is believed by many to be a critically decisive theoretical influence on the study of academic achievement, motivation, and learning (Artino, 2012). According to Bandura (1988), self-efficacy is at the core of human functioning. Individuals must have the confidence to successfully perform the required behavior(s) under both ideal and challenging circumstances. Effective functioning requires skills and efficacy to execute behaviors appropriately, and both develop as individuals grow and learn (Artino, 2012). Bandura's theory is relevant to adult learning in that it accounts for both the learner and the environment (Merriam et al., 2007)

Historical Development

The inquiry into self-efficacy started long before Bandura's Self-Efficacy Theory came into existence in 1977 (Cherry, 2018; Maddux, 1995). However, Bandura formalized perceived competence as self-efficacy and defined and developed the Self-Efficacy Theory, which delineates how self-efficacy influences human behavior (Bandura, 1977; Maddux, 1995). The formalization of the concept was vital to promote the investigation of self-efficacy with empirical rigor (Maddux, 1995).

Theory Constructs

The theory distinguishes between expectations or antecedents of efficacy and response-outcome expectations. Bandura (1977) described an outcome expectation as "a person's estimate that a given behavior will lead to certain outcomes" (p. 193). On the other hand, an efficacy expectation is "the conviction that one can successfully execute the behavior required to produce the outcomes" (Bandura, 1977, p. 193). Lacking confidence or motivation will lower a person's

self-efficacy and therefore has a stronger indication of a person's ability to complete an outcome (Bandura, 1977).

Four sources determine perceived self-efficacy: performance accomplishments or enactive mastery experiences, vicarious experiences, verbal persuasion, and physiological states of emotional arousal (Bandura, 1977). Bandura believed that, although performance accomplishments, vicarious experiences, verbal persuasion, and physiological states all influence self-efficacy, performance accomplishments have the strongest correlation (Bandura, 1977, 1994).

Performance accomplishments

Bandura's first source of self-efficacy is determined when a person has mastered a task or mastered controlling an environment (Bandura, 1977, 1994). The feelings a person gains by succeeding in a performance challenge will build a strong belief in one's self-efficacy (Bandura, 1994). Bandura (1994) purported that once a person believes they have what it takes to be successful, they will be able to rebound from setbacks and endure in the face of difficulty.

Vicarious Experiences

The second source of self-efficacy comes from a situation in which levels of self-efficacy are either increased or decreased due to observing another person or group's performance. Viewing successful people, especially when they are role models, helps raise beliefs that similar positive results can be obtained (Bandura, 1994). Bandura (1994) also asserted that observing other people fail lowers a person's view of their efficacy.

Verbal Persuasion

The third source of self-efficacy comes from positive or negative verbal feedback related to task performance (Bandura, 1994). When a person receives positive verbal feedback, they are

more likely to put forth the effort to achieve the mission successfully. Positive, persuasive boosts in perceived self-efficacy lead people to try hard to succeed (Bandura, 1994).

Physiological States

The final source of self-efficacy is linked to the signal that one's body is sending related to performance and refers to the importance of context and overall health in developing and maintaining self-efficacy (Bandura, 1994). Moods, emotions, physical reactions, and stress may influence how one feels about themself. Bandura shared that people rely on their emotional states in judging their capabilities, which can lead to interpreting their stress reactions as a sign of weakness to poor performance.

Theory Application

Researchers have utilized Bandura's Self-Efficacy Theory in the social and behavioral sciences to predict and explain a wide range of human functioning over the past decades (Artino, 2012). Blair et al. (2018) utilized Bandura's Self-Efficacy Theory as a conceptual framework to determine if an educational intervention on suicidal prevention increased nurse's self-efficacy in addressing suicidal risk with their patients. The study found a statistically significant improvement in the nurses' self-efficacy after the educational course (Blair et al., 2018). Kim and Sohn (2019) applied Bandura's theory to construct and test the structural relationships between self-efficacy and clinical performance with undergraduate nursing students. The study's findings contributed to developing nursing curricula and interventions targeting nursing students' clinical performance (Kim & Sohn, 2019). Bandura's Self-Efficacy Theory has been utilized in various settings and with a wide range of populations. In particular, studies promoting self-efficacy among nursing students and registered nurses have helped develop interventions that can be implemented to improve self-efficacy (Li et al., 2017).

Theory Application in the Current Study

This research study utilized Bandura's Self-Efficacy Theory as a framework to explore and describe nurses' perceptions of influences that impact their self-efficacy in caring for patients living with diabetes. The development of the study's interview questions, an iterative series of semi-structured, open-ended questions, were based on Bandura's theoretical framework for self-efficacy. Moreover, Bandura's theory served as a foundation in the descriptive qualitative data analysis by identifying relevant and related concepts, patterns, and themes.

Chapter Summary

Nurses must possess the knowledge and skills to safely care for patients with diabetes in the acute care setting. The literature has concluded that direct care nurses lack knowledge and confidence in providing optimal inpatient diabetes care. A paucity of literature exists that examines nurses' perceptions of the influences that impact self-efficacy surrounding this phenomenon. The purpose of this study was to explore and describe the perceptions of influences that impact medical-surgical nurses' self-efficacy in caring for patients living with diabetes. The overarching principle of the Self-Efficacy Theory that people who have high self-efficacy will likely participate in an activity, whereas people with low self-efficacy will not (Bandura, 1977) provided the theoretical framework for this study.

Chapter Two
Review of the Literature

Diabetes is a global problem that has contributed to increased utilization of healthcare resources with adverse patient outcomes (Mays, 2015; World Health Organization, 2019). The number of Americans living with diabetes is estimated at 30 million, with numbers only expected to grow (CDC, 2019). The statistics are disturbing. Inadequate knowledge of recent trends in diabetes management can affect the quality and safety of hospitalized patients living with diabetes, resulting in longer lengths of stay and increased readmission rates (American Diabetes Association, 2013). Additionally, this population is at risk for severe complications such as infections, falls, pressure ulcers, and harmful or even deadly hyperglycemia or hypoglycemia events (Aston, 2013; Carey et al., 2018).

Nurses' Acquisition of Diabetes Knowledge

Alotalbi et al. (2018) purported that knowledge acquisition was perceived by nurses to be impacted by the lack of support in current diabetes education. The competency of newly licensed registered nurses should include applying knowledge and skills acquired in the student role. Similarly, the ongoing competency of registered nurses in all clinical settings must be ensured and documented. The complexity of maintaining broad-based competency across multiple disease processes is challenging for individuals and health systems alike. Nurses have an ethical and legal responsibility to maintain professional competency (ANA, 2019). Consequently, it is essential to explore and describe the influences that impact it.

The complexity of caring for the patient living with diabetes is related to new medications, treatments, and continually evolving therapies (Funnell & Freehill, 2018; Smith et al., 2019; Stewart, 2019). Nurses from all settings and levels of experience must keep up to date

with new guidelines for hospitalized patients living with diabetes (Daly et al., 2019; Funnell & Freehill, 2018; Smith et al., 2019).

Nursing Curricula

The Institute of Medicine (IOM) challenged Schools of Nursing (SON) to evaluate current curricula and develop new approaches that prepare nurses to deliver high-quality care in the 21st century (2010). Innovative nursing curricula, focusing on concepts, technology, simulation, and flexible pathways are needed to respond to the call for curriculum reform (Benner et al., 2010; Keating, 2015). Conversely, SON have relied on traditional curricula and therefore continue to struggle to prepare nursing students for today's complex healthcare environment (Benner et al., 2010; American Diabetes Association. (2013); Phillips et al., 2013). Moreover, there is a substantial gap between the education of nurses and the nature of contemporary nursing practice in today's health care systems (Benner et al., 2010; Duncan et al., 2015; Yancey, 2015).

Schools of nursing have a duty to prepare students as safe and competent nurses who successfully pass the National Council Licensure Examination for Registered Nurses (NCLEX-RN) (Glasgow et al., 2019; Quinn et al., 2018). With approximately 996 baccalaureate programs in the United States (AACN, 2019), the nursing curriculum surrounding diabetes management varies across the country (Schultze et al., 2019). Moreover, Sportsman and Pleasant (2017) asserted that nurse faculty struggle with content overload. Nonetheless, most SON emphasize the nurses' role in diabetes management, including educating, assessing, planning, administering medication, and evaluating treatment (Dubovi, 2018).

Diabetes Education for the Registered Nurse

A newly graduated registered nurse cannot rely on faculty to guide them in their day-to-day nursing practice. Nurses from different levels of experience must draw from their knowledge and care for patients with diabetes. With the evolution of new research and new advances in diabetes, the responsibility to ensure competencies in diabetes management is diverse. According to the ANA (2019), the assurance of nurses' competencies is first the nurse's responsibility. However, the profession, professional organizations, credentialing and certification entities, regulatory agencies, and employers play a role in the assurance of competencies (ANA, 2019).

Healthcare organizations need to provide ample educational opportunities such as continuing diabetes education to promote an environment to support patient safety (Phillips, 2019; Ugur et al., 2015). Pichardo-Lowden et al. (2017) recommended that diabetes education be implemented as a regular part of hospitals' quality planning by integrating clinical practice diabetes guidelines. The level of commitment from healthcare organizations to ensure proper continuing diabetes education varies among organizations (Yu et al., 2018), making it difficult to standardize diabetes education.

All nurses should know the scope and standards that drive their practice. Additionally, nurses have an ethical and legal responsibility to themselves, the public, and the nursing profession to provide safe, efficient, timely, effective, equitable, and patient-centered care (ANA, 2019). Consequently, nurses must take ownership and stay abreast of current evidence-based practices surrounding diabetes management. According to Price-Dowd (2017), nurses' clinical competency is the core of professional nursing.

Multifaceted Diabetes Advancements

The influx of new technology and medications for people living with diabetes has evolved at an alarming rate (Funnell & Freehill, 2018; Gonzalvo, 2018; Lampe, 2015). Nurses

must be knowledgeable of the new technology and medications that are becoming available so they can provide optimal care for this population (Down, 2019; Funnell & Freehill, 2018). New technology, such as continuous glucose monitoring systems (CGMS), artificial pancreas (closed-loop system), smart pens, and smartphone apps, are just a few options available to people living with diabetes (Doheny, 2018).

Insulin Pumps

A recent trend seen in the acute care setting is the increase of patients entering the hospital with insulin pumps (Lampe, 2015; Thompson et al., 2018). Even though the insulin pump is not a new device, new technologies, guidelines, and policies exist to ensure patients with insulin pumps can receive safe care. Nonetheless, direct care nurses have expressed a lack of confidence in managing this type of device and, consequently, cannot manage a patient who chooses to wear the pump while in the hospital (Modic et al., 2014). Low self-efficacy can hinder direct care nurses' ability to follow established guidelines or policies (Ryan, 2017).

Suboptimal Diabetes Care

The self-management of any chronic disease can present challenges for patients and their families. People living with diabetes depend on registered nurses and other health care providers to be knowledgeable and confident to provide optimal care. Unfortunately, patients with diabetes are not consistently getting the level of care they need (Alotaibi et al., 2017: Molayaghobi et al., 2019: Pichardo-Lowden et al., 2017: Rayman, 2015). Mogre et al. (2015) found nurses in West Africa were lacking knowledge in nutritional diabetes management. Additionally, Paraizo et al. (2018) discovered nurses in Brazil lack diabetes knowledge surrounding the conceptualization of diabetes, treatment, and management of diabetes.

Suboptimal care is a direct result of nurses who lack knowledge and often confidence in diabetes management (Alotaibi et al., 2016, 2018; James et al., 2016; Lange & Pearce, 2017; Modic et al., 2014; Molayaghobi et al., 2019; Pichardo-Lowden et al., 2017; Yacoub et al., 2014). Nurses' lack of knowledge and confidence in diabetes management is not a new phenomenon and is supported in the literature (Agarwal et al., 2014; Cardwell et al., 2016; Hollis et al., 2014; Silva-Paraizo et al., 2018; Rushforth et al., 2016). Importantly, there is a scarcity of literature that explores and describes the perceptions of influences that impact diabetes management through the lens of medical surgical direct care nurses.

Self-Efficacy

According to Bandura (1977), self-efficacy is the most significant construct in predicting behavior change. Self-efficacy affects how a person trusts their own ability to accomplish a task. Mohebi et al. (2013) discovered a direct link between self-efficacy and self-care. The concept of self-efficacy encompassing health behaviors and patient outcomes has been studied for years. It has been recognized as one of the most important variables associated with health-related behaviors (Voskuil & Robbins, 2015). Nurses need to understand their self-efficacy regarding their ability to provide optimal care to patients (Hsu & Chen, 2019).

The Concept of Self-Efficacy

The concept of self-efficacy was derived from the psychological research of Bandura (1977). Bandura (1997) defined self-efficacy as an individual's perception of their capabilities and performance levels. In a study exploring whether writing self-efficacy improved among first-year nursing students following a writing course, investigators explored how anxiety plays a role in student's success (Mitchell et al., 2017). Even though self-efficacy scores improved after the writing course, anxiety decreased the nursing student's self-efficacy.

Vance and Brandon (2017) examined the concepts of parenting self-efficacy, parenting confidence, and competence. They discovered that parenting confidence and parenting self-efficacy describe a parents' internal beliefs regarding their ability to carry out parenting behaviors (Vance & Brandon, 2017). Self-efficacy was utilized as one of the psychological constructs to examine fruit and vegetable intake after an intervention. All the participants had prior knowledge about healthy eating and the value of fruits and vegetables added to their daily diet. The results revealed self-efficacy improved after the intervention; however, the participants' perceived capability gave them the confidence to make the right choices and eat more fruits and vegetables (Keller et al., 2018).

In business, the concept of computer self-efficacy in relation to a technology acceptance model was examined. Even though self-efficacy was determined to be statistically insignificant as far as the employees' confidence levels, the concept allowed the authors to gain insight into the e-training program they wished to adopt (Zainab et al., 2017). Certel and Kozak (2017) examined the locus of academic control, academic procrastination, and academic self-efficacy of athletes. When the internal locus of academic control increased, the athletes' self-efficacy increased, thus leading to increased perceived capability. Bigdeloo and Bozorgi (2016) explored the relationship between religious attitudes and self-efficacy and discovered a connection. When an individual has a high level of self-efficacy and holds strong religious values, a high level of perseverance is achievable.

Self-Efficacy and Nursing

A high level of self-efficacy correlates with professional autonomy and the ability to overcome difficult situations with a sense of empowerment (Soudagar et al., 2015). Self-efficacy in nursing has been analyzed in relation to topics such as cancer, chronic illness, education, and

cultural competence (Robb, 2012; Voskuil & Robbins, 2015). Devarajooh and Chinna (2017) examined how depression and diabetes distress influenced the individual's self-efficacy and found that self-efficacy directly influenced diabetes self-care management. Therefore, understanding these correlations was vital to the well-being of patients living with diabetes (Devarajooh & Chinna, 2017). Promoting self-efficacy in education is an essential concept for educators to understand.

The relationship between an individual's success and failure is dependent on this promotion of self-efficacy. Li et al. (2017) developed a self-reported scale to measure self-efficacy in disaster response for Chinese nursing students. By evaluating the nurses' self-efficacy, they were able to implement interventions to improve their self-efficacy and ensure success. Dellafiore et al. (2019) purported that nurses' self-efficacy in managing pressure ulcers could predict patients' outcomes. Soudagar et al. (2015) asserted that a nurse's self-efficacy is related to how much experience they have. The longer a nurse has worked in a clinical setting, the higher the nurse's belief in his or her ability to do the job well. The assumption aligns with Bandura's (1994) first source of self-efficacy, performance accomplishments.

Nurses' Self-Efficacy and Diabetes Management

The lack of diabetes management knowledge correlates with the nurses' perception or confidence in their ability to provide optimal diabetes care (Lange & Pearce, 2017). Nurses working in Saudi Arabia were found to have significant gaps between perceived and actual diabetes knowledge (Alotaibi et al., 2017). Lange and Pearce (2017) also found a discrepancy between perceived and actual knowledge among nurses related to diabetes knowledge and skills. Though nurses believed they knew a great deal more about diabetes management, the knowledge measurement showed significant deficiencies (Lange & Pearce, 2017).

Similarly, Kobo et al. (2019) found school nurses' perception of diabetes knowledge was higher than actual diabetes knowledge. Conversely, Yacoub et al. (2014) discovered a positive correlation between perceived knowledge and actual diabetes management knowledge among nurses. Nevertheless, both perceived and actual knowledge of diabetes management were found to be deficient (Yacoub et al., 2014).

Understanding the perceptions that affect a nurses' self-efficacy is vital in providing competent care (Alavi, 2014). Numerous studies assessing diabetes knowledge among nurses from different levels, settings, and countries have been conducted (Kobos et al., 2019). The absence of literature surrounding what impacts medical-surgical nurses' self-efficacy related to caring for patients living with diabetes affirmed the desideratum of the proposed study.

Chapter Summary

The number of Americans living with diabetes is expected to increase. Additionally, the complexity of new medications, treatments, and therapies for this population is continually progressing. Chapter two provided a comprehensive review of the literature, solidifying the value and necessity of the research study. Bandura's Self-efficacy theory guided the research study by serving as a theoretical framework. Understanding the perceptions of influences that affect nurses' self-efficacy is fundamental in providing optimal care for patients living with diabetes.

Chapter Three
Methods

Qualitative research aims to reveal and understand a specific phenomenon within a particular context (Edmonds & Kennedy, 2017; Renz et al., 2018). The purpose of this chapter is to outline the research methodology utilized in this qualitative descriptive research study. The research methodology chosen for this study provided the foundation required to support the exploration and description of nurses' perceptions on the influences that impact nurses' self-efficacy in caring for patients living with diabetes. The approach and applicability of the qualitative descriptive design are discussed in this chapter, along with research assumptions, setting, sampling plan, and procedures for the study.

Research Design

Qualitative Descriptive Design

According to Sandelowski (2000, 2010), a qualitative description is the most widely utilized methodologic approach. However, confusion may arise when research investigators do not stay true to the methodology they proclaim to use (Sandelowski, 2000, 2010). Ghorbani and Matourypour (2020) asserted that qualitative descriptive does not yield in-depth description as in ethnography or a theorization like in grounded theory, but a way to describe an experience or event in a straightforward manner. Hence, qualitative description interprets the data without moving too far from the precise description as presented by the research participants (Bradshaw et al., 2017).

Seixas et al. (2018) purported that qualitative description should not be viewed with any less credibility than other qualitative methodologies. Though qualitative descriptive research involves interpretation, it focuses on a rich description of the phenomenon under investigation (Ghorbani & Matourypour, 2020; Roudsari, 2019; Sandelowski, 2010). The purpose of the

research study was to explore and describe a phenomenon in which qualitative descriptive research design was best suited.

Research Assumptions

Research assumptions are beliefs or expectations assumed to be true without validation (Creswell & Poth, 2018). Assumptions help drive our curiosity and are essential in developing and guiding our research (Kriukow, 2018). Acknowledging assumptions are a vital process in conducting qualitative research. Creswell and Poth (2018) emphasized four underlying philosophical assumptions that can shape the direction of a research study; ontological, epistemological, axiological, and methodology. With epistemological assumptions, subjective evidence is assembled based on individual viewpoints from research conducted in the field (Creswell & Poth, 2018). The following research assumptions are congruent with epistemological assumptions:

1. The participants will be open and truthfully share their beliefs regarding diabetes management.
2. Participants will have a genuine interest in participating in an interview.
3. The results of the study will be valuable to nursing education and practice.
4. The Principal Investigator has experience in caring for patients with diabetes and will maintain openness during all phases of the research study.
5. Validation of themes is established by reaching data saturation.

Setting

The setting for the study was two acute care hospitals in the Southeastern United States. The hospitals are not-for-profit, serve the community, and provide numerous services including caring for patients living with diabetes. There are approximately 700 direct care registered nurses

employed at both hospitals. Participants were recruited from a total of six medical-surgical units, three from each hospital. Data were collected by face-to-face interviews or via Zoom interviews.

Sampling Plan

Sampling Strategy

Purposeful sampling is comprised of several unique strategies that are extensively utilized in qualitative research (Palinkas et al., 2016; Polit & Beck, 2017). Fundamentally, any purposeful sampling technique can be utilized in a qualitative descriptive design (Bradshaw et al., 2017; Sandelokski, 2000). Accordingly, the research study utilized two different purposeful sampling strategies to identify data-rich cases (Palinkas et al., 2016).

Purposive Criterion Inclusion Sampling

Purposive criterion-i (inclusion) sampling is a characteristic of qualitative research. The study design identifies criteria for the type of participant most likely to illuminate the research question, actively seek out these individuals, and personally invites their participation (Polit & Beck, 2017). Purposive criterion-i sampling is a non-probability sampling in which the samples are based on subjective judgment (Polit & Beck, 2017). A purposive criterion-i sample strategy aims to identify and select cases that meet the study inclusion criteria. Nurses from six medical-surgical units were targeted as potential participants as the study aimed to explore and describe medical-surgical nurses' self-efficacy in caring for patients with diabetes.

Convenience Sampling

A convenience sampling strategy is employed by a principal investigator (PI) to gather information from participants who are easily accessible (Palinkas, 2016). According to Elfil and Negida (2017), convenience sampling is one of the most utilized non-probability strategies that can prove to be effective. The PI employed both purposive criterion-i and convenience sampling strategies to ensure the sample represents the desired population.

Strengths and Weaknesses of Sampling Strategies

Both purposive criterion-i and convenience sampling are strategies that best aligned with the proposed study. According to Palinkas et al. (2016), criterion-i sampling could fail to capture the experiences of other groups playing other roles in the process or phenomenon that is trying to be understood. However, the purpose of the research study was to intentionally examine the self-efficacy of medical-surgical nurses who care for patients living with diabetes. Thus, this strategy was best suited for the proposed study. Applying a convenience sampling strategy strengthened the plan and ensured a strong sampling strategy was deployed.

Eligibility Criteria

High-quality research studies have well-designed inclusion and exclusion criteria that will decisively target potential participants (Patino & Ferreira, 2018).

Inclusion Criteria

Eligible participants were direct care nurses who worked at least 50% of their time in direct patient care at one of the hospitals where the study took place. Medical-surgical nurses on three inpatient medical-surgical units from each of two acute care hospitals were invited to participate. Medical-surgical units have a high volume of patients living with diabetes. Nurses employed full-time, part-time, and per diem status met inclusion criteria.

Exclusion Criteria

Nurses who did not work on a medical-surgical unit at either hospital were excluded from the study. Medical-surgical nurses who did not provide direct patient care at least 50% of their work time were excluded. Nurses on a leave of absence were not invited to participate. Nursing students, nursing managers, and supervisors were excluded from the study.

Sample Size

The sample size in qualitative research tends to be small and purposive, so rich-textured information surrounding a phenomenon is provided (Butler et al., 2018). A purposive criterion-i and convenience sampling strategies were applied to recruit approximately 5-25 participants. However, the actual number depended on when data saturation was achieved (Polit & Beck, 2017).

Protection of Human Subjects

The proposed research study was submitted to the Nova Southeastern University (NSU) Institutional Review Board (IRB). Guided by federal regulations, the role of the IRB is to protect the rights of research participants (Creswell, 2014). Following an exempt determination by the NSU IRB, the study was submitted to the healthcare organization's IRB in compliance with the organization's IRB process.

Participation in this study was entirely voluntary and confidential. Data were collected anonymously; no personal identifying information was requested on the demographic survey. The PI only referred to the participant using a pseudonym selected by the participant. Participants were assured that choosing not to participate in the study would not affect the participant's employment status.

Risks and Benefits of Participation

The research study did not involve more than minimal risk to the subjects. The minimal risks included a possible breach of confidentiality; however, safeguards were in place to protect the participant's rights and anonymity. The use of a pseudonym for each potential participant protected their privacy. Moreover, no identifiable information was collected on the demographic survey that may have identified the participants.

Furthermore, although minimal, there is a possibility with qualitative research that a participant might feel emotional distress discussing specific topics (Butler et al., 2019). The PI sought to ensure the participants' comfortable. The PI did not pursue further probing on any question with which the participant felt uncomfortable.

There were no direct benefits to participating in this study other than assisting in generating new knowledge on the research topic. As a result of the participants' involvement, successful interventions can be implemented to improve nurses' self-efficacy in caring for patients living with diabetes.

Data Storage

The interviews were digitally audio-recorded and transcribed verbatim. The transcripts, audio recordings, and demographic data will be kept in a locked cabinet in the PI office for seven years and then destroyed. Additionally, the PI's office remains secure as the office door remains locked when the PI is not present.

Recruitment

Recruitment was a three-step process that first included identifying potential participants, contacting or informing them of the study, and finally obtaining consent to participate in the study (Preston et al., 2016). The inclusion and exclusion criteria determined the identification of the participants working at two acute care hospitals.

Delivery of Information

Upon IRB approval from both NSU and BHSF, the PI initiated the recruitment plan. The recruitment of participants took place on six medical-surgical units within the two acute care hospitals. Recruitment flyers were posted in the employee break room on each of the units stating the purpose of the study, design of the study, and the PI contact information (see Appendix A). Additionally, the PI used a scripted announcement and verbally announced the

study's purpose, design, and contact information at various hospital meetings (see Appendix B). Finally, the PI obtained from nursing leadership the work email distribution list of all medical-surgical nurses and emailed the recruitment flyer announcing the study and inviting participation.

Data Collection

The current COVID-19 pandemic has changed the way the United States conducts business. Social distancing is one way to mitigate the spread of COVID-19. To protect the safety of potential participants and proceed with the study, face-to-face interviews or Zoom interviews were offered. The interaction between the participant and PI generated the data for the research study (Baillie, 2019). Individual interviews are more effective in generating a variety of information (Guest et al., 2017).

Face to Face Interviews

If the potential participant selected a face-to-face interview, a date and time convenient for the potential participant would be arranged. All interviews would be held in a conference room or classroom within the hospital. Before the interview, the PI arranged the room so that the PI and participant were comfortable, ensuring six feet separation and still maintaining good visibility. Additionally, the PI adhered to current hospital policies regarding the use of facial masks and ensured both the PI and participant complied. As the potential participant arrived, the PI greeted them and asked them to take a seat inside the room.

Consent Process

The PI placed a “do not disturb” sign on the outside of the closed door. The PI proceeded with the consent process. Informed consent is a communication process between the investigator and research participant that ultimately culminates in the authorization or refusal to participate in a research study (Grady et al., 2017). The informed consent form described the purpose of the study, risks, benefits, and rights of the participants (see Appendix C). The potential participant

was given ample time to review the informed consent form and sufficient time for any questions to be answered. A demographic survey was attached to the informed consent with a paperclip (see Appendix D). No personal identifying information was collected on the demographic survey.

If the potential participant opted not to participate or discontinue participation, they were permitted to leave at any time. The PI ensured the individual was thanked for their time. Once the potential participant agreed to participate in the study, they signed and dated the last page of the informed consent. If they had chosen a face-to-face interview, they gave the PI the last page of the informed consent. Before the interview began, the participant was asked to complete a demographic survey consisting of seven questions. If the interview took place in person, they personally completed the demographic survey. The PI only referred to the participant by the pseudonym they selected.

Interview Process

The data were collected through digitally recorded responses to the interview questions. Two recorders were used as a precaution in case one recorder malfunctioned, and the recordings were transcribed verbatim. Bandura's Self-Efficacy Theory served as a foundation for the development of each of the open-ended questions (see Appendix E). Open-ended semi-structured questions, free from assumptions, were employed to facilitate a comfortable interaction among the PI and participant. Open-ended questions are questions that allow someone to give a free-form answer. The goal was to encourage an individual to talk at length. Each question took approximately 10 minutes to exhaust unique responses from the individual. Throughout the session, the PI would sometimes probe responses to obtain a richness of information. For example, the PI might ask a participant, "Could you tell me a bit more about that…" or "Can you

be more specific regarding…". Additionally, subsequent questions were based on the initial responses. Interviews were scheduled for 60 minutes but did not last longer than 90 minutes. Once the interview ended, the PI thanked the participant for their time and, the interview concluded. The PI notified the participant that once the audio recording was transcribed verbatim, they would be invited to review the transcripts for accuracy. The invitation to attend a follow-up session was sent out via email with the PI's contact information (see Appendix F). However, this was not mandatory and was completely voluntary.

Zoom Interviews

Zoom offers secure recordings of sessions and can store sessions without recourse to third-party software (Zoom Video Communications Inc., 2016). According to Archibald et al. (2019), Zoom has several unique features that improve its potential application to qualitative research. Additionally, Zoom has user-specific authentication, real-time encryption of meetings, and the ability to backup recordings to online remote server networks (Zoom Video Communication Inc., 2016). Research participants reported that utilizing an online video conferencing software was more convenient and efficient than attending in person (Ellis et al., 2015).

Zoom Interview Process

If a potential participant selected the Zoom platform, the PI scheduled a date and time that was convenient for the potential participant. Once a date and time were confirmed, the PI emailed a Zoom calendar invite with the informed consent attached. The potential participant was asked to read the informed consent and informed that the PI would answer any potential participant questions. If the potential participant agreed to participate in the study, the PI asked them to sign the last page of the informed consent and email a copy.

After the participant joined the Zoom interview, the PI asked the participant to select a pseudonym. Before the interview started, the PI asked the participant to answer the demographic questions. The PI conducted the interview utilizing the same process as described in the face-to-face interviews. Following each interview, the data were transcribed verbatim.

Data Management and Organization

At the end of each interview, the data were transcribed verbatim by the PI. The transcripts were stored in a password-protected BHSF computer. The PI utilized the NVivo software program, a research tool that assists in managing, storing, and organizing qualitative data from interviews (Merriam & Tisdell, 2016).

Data Analysis

Constant Comparative Analysis

The Constant Comparative Analysis (CCA) Method was utilized to extract concepts from the data by coding and analyzing simultaneously (Kolb, 2012). The idea and integral parts of the analysis process are to reduce the data into manageable units and code the information using three steps: open coding, axial coding, and selective coding (Kolb, 2012).

In the first step of open coding, the data were divided into segments and then were examined for commonalities that could reflect categories or themes. Verbatim quotations were coded with terms close to what the participants said (Connelly, 2013). The PI approached this step by asking questions, making comparisons, and looking for similarities and differences between the comments. Once the data was categorized, it was examined for properties that characterize each category to reduce the data to a small set of themes that appear to describe the phenomenon under investigation (Kolb, 2012).

During the second step of axial coding, connections were made amongst the categories and the subcategories. The process involved putting data together in new ways by making

connections between the categories and was achieved by exploring the conditions, context, action, and consequences that influence the phenomenon that was being studied.

In the last step, selective coding, the process of identifying and choosing the core category and then systematically relating it to the other categories, as defined by Strauss and Corbin (1990), was carried out. During this process, the categories and their interrelationships were combined to form a storyline that described medical-surgical nurse's perceptions of self-efficacy related to caring for patients living with diabetes. Strauss and Corbin (1990) describe flexible guidelines for coding data in that the three types of coding are not necessarily sequential, and they are likely to overlap. After collecting additional data, the PI returned to analyzing and coding data, used the insights from that analysis process to inform the next iteration of data collection. The process continued until a strong description of the phenomenon had emerged (Kolb, 2012). Confidently, the final product of all the analyses was the production of fundamental core categories that were completely saturated.

Rigor or Trustworthiness

The rigor or trustworthiness of a study refers to the degree of confidence in the data, interpretation, and methods utilized to guarantee the quality of the study (Polit & Beck, 2017). The quality of quantitative research can be assessed through the validity and reliability of the study (Ellis, 2018). Ellis (2018) asserted that qualitative research is not held to the same quality rules as quantitative research. Quantitative research follows a structured, preset design with the methods well prescribed. In qualitative research, the design is emergent and cannot lend itself to the same characteristics of a quantitative rigor (Cypress, 2018). According to Rettke et al. (2018), establishing rigor in qualitative research can be challenging. Despite the challenges associated with qualitative research, trustworthiness can be established. Criteria for shaping the trustworthiness of qualitative research were introduced by Lincoln and Guba (1985), replacing

terminologies such as rigor, reliability, validity, and generalizability with dependability, credibility, and transferability. Trustworthiness is the broad concept utilized to denote how much faith can be placed in the discoveries of a qualitative study (Ellis, 2018). Key indicators of trustworthiness include credibility, dependability, confirmability, transferability, and authenticity.

Credibility

Credibility is similar to validity in quantitative research and refers to how believable, truthful, and accurate the reader finds the results (Ellis, 2018; Polit & Beck, 2017). Credibility can be established through several different methods. Member checking, triangulation, and peer debriefing are methods in which credibility can be established (Varpio et al., 2017).

The principal investigator increased the credibility of the research study by employing the strategy of member checking. Also known as participant validation, member checking is an approach for exploring the credibility of results (Birt et al., 2016). Member checking involved the PI returning the verbatim transcript to the participants to review and verify for accuracy.

Method triangulation involves utilizing various methods of data collection on the inquiry under investigation (Polit & Beck, 2017). Multiple data collection methods were used by the PI, which included interviews via Zoom, audio recordings of the interviews, and field notes taken during the interviews.

Dependability

Guba and Lincoln (1982) highlighted that a dependable study needs to be both accurate and consistent. Dependability in qualitative research refers to data reliability over time and different conditions (Ellis, 2019). Polit and Beck (2017) emphasized that dependability involves the assessment of steps of data collection and the systematic process in the analysis process. The

PI provided a detailed outline and explanation of the proposed study design, setting, sampling plan, implementation, data collection, and data analysis. The PI ensured the dependability of the study by describing the changes within the setting of the study and how this might have influenced data collection (Ellis, 2018).

Confirmability

Confirmability is the capacity to control research bias and maintain objectivity in a research study (Polit & Beck, 2017). Qualitative research should start from a neutral inductive approach and allow the findings to emerge unrestricted with prior assumptions from the data collected (Carnevale, 2016; Ellis, 2018). The PI ensured confirmability by providing a trajectory of how the data was collected and what interpretations were made.

Bracketing is the process of identifying and mitigating personal or professional experiences, biases, and preconceived notions about the research topic (Polit & Beck, 2017). Moreover, bracketing also sets aside knowledge of previous research studies when examining the study's current data. The concept of bracketing was the mindset of the PI throughout the entire research process. Several months prior to receiving IRB approval, the PI started a reflexive journal. Reflexivity is the ability to evaluate oneself. Ortlipp (2008) emphasized that the value of a reflexive journal goes beyond improving the research process; it is a way for a PI to explore their personal assumptions, thus, creating transparency in the research process. Some of the aspects explored by the PI were reasons for undertaking the research study, assumptions regarding nurses' knowledge and self-efficacy surrounding diabetes management, and personal and professional views of nurses caring for patients living with diabetes. The PI continued the reflexive journal throughout the data collection, data analysis, and conclusion of the study.

Transferability

Transferability refers to the extent that the findings apply to others in different settings and situations (Polit & Beck, 2017). The PI supported the proposed study's transferability with a rich, comprehensive description of the study's context, location, and participants (Connelly, 2016).

Authenticity

When a research study is authentic, it demonstrates all the realities represented within the group under study (Polit & Beck, 2017). The PI addressed authenticity by ensuring the proper selection of the study population, followed by a detailed description to portray a vivid understanding (Connelly, 2016).

Chapter Summary

Chapter three aimed to outline the research methodology that was utilized to answer the research question. A qualitative descriptive design provided a strong foundation to support the exploration and description of nurses' perceptions on the influences that impact nurses' self-efficacy in caring for patients living with diabetes. A discussion of the research assumptions, setting, sampling plan, recruitment, data collection, and data management was outlined in this chapter. Additionally, an in-depth look at how the PI established trustworthiness with the key indicators of credibility, dependability, confirmability, transferability, and authenticity was summarized.

Chapter Four
Interpretation of the Findings

The purpose of this qualitative descriptive study was to explore and describe nurses' perceptions of self-efficacy related to caring for patients living with diabetes. The research question that guided this study was as follows: What are nurses' perceptions of the influences that impact self-efficacy in caring for patients living with diabetes on a medical-surgical unit? A qualitative descriptive design was the best method to interpret the results without moving too far from the precise description (Bradshaw et al., 2017). This chapter includes the demographic data and the results of three levels of analysis: open coding, axial coding, and selective coding. A constant comparison analysis was applied at each level to refine the data further until themes emerged from the data (Kolb, 2012).

The results of this study embodied the perceptions of eight medical-surgical nurses from two acute care hospitals in the Southeastern United States. Four major themes emerged from the data: (a) educational preparation, (b) biases towards patients, (c) current clinical environment, and (d) patients' behaviors affect nurses' emotions. Furthermore, six subthemes were elucidated within the four major themes, which included: (a) hands-on experience, (b) nursing curriculum, (c) patient knowledge gap, (d) patient compliance, (e) valuing organizational support, and (f) increasing demands. The study findings are reinforced by analyzing interviews with the participants and describes the nurses' perceptions of the influences that impact self-efficacy while caring for patients living with diabetes.

Participants

Purposive criterion-i (inclusion) and convenience sampling were utilized to recruit medical-surgical nurses with experience caring for patients living with diabetes. A purposive criterion-i sampling allowed the principal investigator to explore the perceptions of medical-

surgical nurses intentionally. Additionally, employing a convenience strategy strengthened the sampling plan. Data saturation was reached with a final sample size of eight participants as perceptions of the participants were consistently similar, and no new information was attained (Polit & Beck, 2017).

Demographic Data of Participants

Demographic data were collected (see Table 1). Participants ranged in age from 20 to 50 years old. Three participants (38%) were between 20-30 years old, one participant (13%) was between 31-40 years old, and four participants (50%) were between 41-50 years old. All eight participants were female.

Years of experience as a registered nurse varied. Two participants (25%) had less than three years of experience, two participants (25%) had 4-10 years of experience, three participants (38%) had between 11-20 years of experience, and only one participant (13%) had 21 years or more of experience as a registered nurse. The highest educational degree earned query revealed a heterogeneous sample. Two participants (25%) had earned an Associate Degree in Nursing (ADN), four (50%) had earned their Bachelor of Science in Nursing (BSN), and two (25%) had earned their Master of Science in Nursing (MSN) as a family nurse practitioner. Two of the study participants (25%) were certified in medical-surgical nursing; six participants (75%) were not certified. None of the eight participants received any specialized training in diabetes management beyond their training in nursing school and standard hospital competency training.

Table 1

Demographic Information of Participants (N=8)

Demographic questions	Frequency	Percentage
Age		
20-30 years old	3	38%
31-40 years old	1	13%
41-50 years old	4	50%
Gender		
Female	8	100%
Years of experience as a registered nurse		
Less than 3 years	2	25%
4-10 years	2	25%
11-20 years	3	38%
21+ years	1	13%
Years of experience working on a medical-surgical unit		
Less than 3 years	2	25%
4-10 years	3	38%
11-20 years	3	38%
Highest educational degree obtained		
ADN	2	25%
BSN	4	50%
MSN (Family Nurse Practitioner)	2	25%
Certification in medical-surgical nursing		
Yes	2	25%
No	6	75%
Specialized training in diabetes management		
Yes	0	0%
No	8	100%

Data Collection

Participants in this study were given a choice to either participate in face-to-face interviews or an interview via Zoom. All eight participants opted for the Zoom platform. Data were collected over three weeks, from September 28, 2020, to October 16, 2020. The informed consent was reviewed in detail, allowing the participants to ask questions. All participants provided a signed informed consent. Once the consent was obtained, participants chose a pseudonym to maintain confidentiality.

Interviews

The use of open-ended semi-structured questions, free from assumptions, was employed to facilitate a comfortable interaction between the principal investigator (PI) and the participant (see Appendix E). The interviews were recorded utilizing the Zoom recording function and a digital recorder. The PI listened attentively and followed up with probing questions. Additionally, the PI took notes during each interview, observing key perceptions and emotions displayed by the participants. The mean time for the length of the interviews was 58 minutes. The PI listened to each of the recordings a minimum of four times to ensure the accuracy of the transcriptions. Once the interviews were transcribed verbatim, member checking was accomplished through a follow-up session with each of the eight participants via Zoom to review the transcripts for accuracy and clarity.

Data Analysis

The data analysis process was well-defined (see Figure 1). The PI coded each interview manually during the open coding analysis phase once member checking was finalized. Concurrently, the transcripts from each of the interviews were uploaded to NVivio 12 software program. Each of the interviews was coded utilizing the NVivio 12 program and then compared to the manual coding. Moreover, fieldnotes were meticulously reviewed for commonalities that

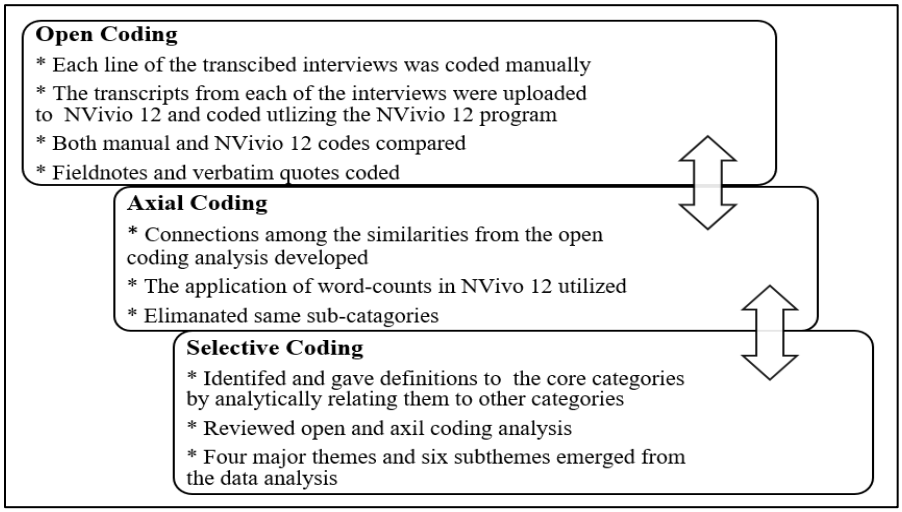
could reflect codes. Verbatim quotations were coded with terms close to what the participants said. Direct quotes were utilized to reveal the exact statements and perceptions of the participants. The PI was able to remain consistent in highlighting key codes that described the participants' perceptions of the influences that impact caring for patients living with diabetes.

In the next phase of axial coding, the PI made connections among the similarities from the open coding analysis. Additionally, the application of word-counts in NVivo 12 was utilized to ensure no codes or categories were missed. NVivo 12 added value in organizing the data. However, NVivo 12 is a tool used to facilitate the development of codes, but the program does not analyze the codes for the development of themes.

Finally, the PI employed selective coding analysis to identify and choose the core categories by analytically relating them to other categories. During this process, the PI reviewed open and axial coding analysis to ensure all possible codes and categories were revealed. Hence, the final themes and subthemes emerged from the data. Figure 1 provides a summary of the data analysis process for open coding, axial coding, and selective coding.

Figure 1

Data Analysis Process



Findings

Four major themes emerged from the participants in this study. Within the four major themes, six subthemes were revealed. The four major themes that encompassed medical-surgical nurses' perceptions on the influences that affect self-efficacy in caring for patients living with diabetes were as followed: (a) educational preparation, (b) biases towards patients, (c) current clinical environment, and (d) patients' behavior affect nurses' emotions. The six subthemes identified were: (a) hands-on experience, (b) nursing curriculum, (c) patient knowledge gap, (d) patient compliance, (e) valuing organizational support, and (f) increasing demands. A summary of the major themes and subthemes was constructed (see Table 2), and a visual depiction of the four major themes is presented (see Figure 2).

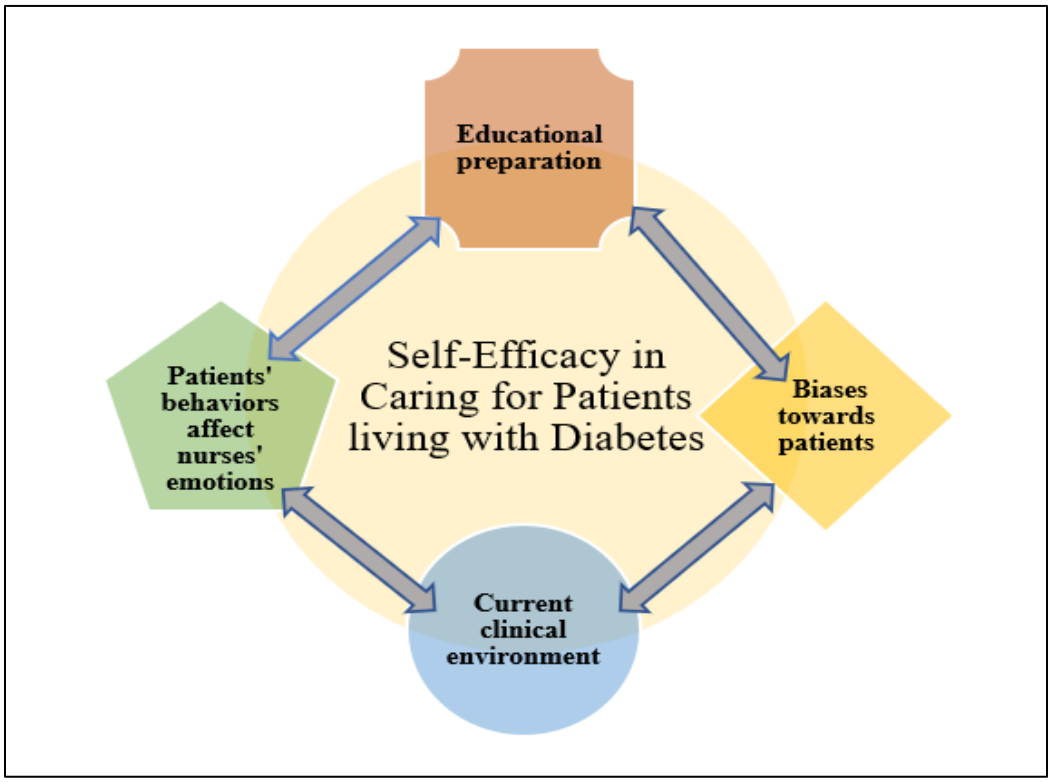
Table 2

Themes and Subthemes

Themes	Subthemes
1. Educational preparation	1a. Hands-on experience 1b. Nursing curriculum
2. Biases towards patients	2a. Patient knowledge gap 2b. Patient compliance
3. Current clinical environment	3a. Valuing organizational support 3b. Increasing demands
4. Patients' behaviors affect nurses' emotions	

Figure 2

Major Themes



Theme One: Educational Preparation

Clay et al. (2017) asserted that generic educational preparation may not adequately prepare nurses and highlighted that graduating nursing students missed several hazards of hospitalization, such as identifying the presence of pressure ulcers. Preparing nursing students in today's complex healthcare system is not an easy undertaking. After choosing their pseudonym, the participants in the study were each asked to describe how their nursing education prepared them to care for patients living with diabetes. All eight participants described some level of insufficient preparation in their undergraduate nursing programs. Maria described being a newly graduate nurse and "lacking the confidence" she needed to care for patients living with diabetes. Similarly, Heather conveyed, "there is no way out of [nursing] school that I could say I could have worked confidently on a diabetic floor." The deficiency of confidence as a newly graduate registered nurse echoed with Molly as she explained, "my confidence seemed to get better as time went on." Leufer and Cleary-Holdforth (2020) found senior nursing students were concerned with the lack of learning opportunities and worried about their readiness for practice.

In discussing their perceptions about the nursing curriculum and their experiences in nursing schools, participants expressed a scarcity of hands-on training and didactics that were too basic and general**.** As Heather explained, "they give you the basics, but until you walk it, live it, see it, and do it…there's so much more to it than what they teach you in nursing school." Additionally, most participants recommended that more clinical hours caring for patients living with diabetes would have prepared them to care for this population as a new graduate registered nurse. Newly graduate registered nurses reported that clinical hours had contributed more than academic courses in achieving competence (Gardulf et al., 2016). Similarly, Kiekkas et al. (2019) discovered that higher competence could be achieved if nursing undergraduate programs

increased clinical hours and nursing science courses. Hands-on experience and nursing curriculum were two subthemes that emerged from educational preparation.

Hands-on Experience

Clinical hours for nursing students are vital in preparing them to experience real-world scenarios in the healthcare setting (Jamshidi et al., 2016). However, most participants expressed that clinical time was insufficient, especially with patients living with diabetes. Maria felt she did not get anything out of her clinical hours surrounding diabetes management, and it was not until they started working on a medical-surgical unit that they got the hands-on experience needed to be a competent nurse. As Krystal explained and further validated, "when I went to clinicals, we had patients who were diabetic, but there is a different mentality from doing clinicals and working in the field because right from [the beginning] you go, and you help other nurses working…as a clinical student you just kind of help and you leave and forget about it…it doesn't stick."

The clinical experience promotes nursing students to use their critical thinking skills for problem-solving and strengthens their role as a professional nurse (Kaldal et al., 2015; Kim, 2020). Most of the participants conveyed that the dearth of clinical experience related to diabetes management during nursing school and learning for them did not occur until they had hands-on experience working with this population. As Jessie shared, "I think I learned most of my [nursing] practice hands-on…one thing is the book, but another thing is the real-life scenarios that we encounter every day." A suboptimal clinical experience can hinder nursing students from providing competent care. One participant, Jennifer, recommended schools of nursing utilize more simulation with nursing students especially surrounding patients with diabetes. Her

involvement with simulation in nursing school was limited, but she found the experience valuable.

Nursing Curriculum

The Institute of Medicine [IOM] (2011) has urged nursing academia to make changes within the nursing curriculum to prepare students to practice competently. Today's healthcare environment continues to evolve and change at a rapid pace. Ghaziri and Morse (2020) asserted that nursing students must be educated to recognize the emergent needs of patient care. Nonetheless, deficiency between the education of nurses and the nature of contemporary nursing practice in today's healthcare systems continues to be a challenge (Benner et al., 2010; Duncan et al., 2015; Yancey, 2015).

Several participants expressed how it was not until they started working as a nurse that they realized every patient with diabetes is different, and the other aspects needed to be taken into consideration when caring for them. All participants conveyed that they felt the education they received in nursing school was too basic and deficient in preparing them to care for this population. Participants, such as Molly, felt they did not get the "big picture" regarding diabetes management, resulting from a lack of educational preparation. The pathophysiology of diabetes is a complex undertaking, and one participant described a lack of educational preparation. Jane proposed "nursing schools should focus on pathophysiology of diabetes, and not just the basics." Jane further explained, "I've seen nursing students, they are on the floor…when we talk about what causes diabetes, where it comes from, they are not clear where it is coming from, and if you are a nurse, you must know where everything comes from, you have to understand the whole picture of diabetes."

Furthermore, Sally shared what they learned in their undergraduate program was inadequate and left her missing the "tools" she needed to be a confident nurse. As Sally described, "in nursing school we had the basics and not enough application…the [education provided did not] give you enough tools to take care of this population…it is not the same when you went to school [compared to] when you have to face this kind of population." The absence of "tools" that the participants spoke of also included their weakness in problem-solving skills.

Managing the complexities of today's complex inpatient environment requires competent nurses with the ability to think critically and problem solve (Ahmady & Shabazi, 2020). Heather elaborated that she was not prepared to "critical think" when caring for patients living with diabetes. Heather asserted that "we know they are [patients with diabetes] going to be high [blood glucose] …we know we have to do teaching, but we are not taught as nursing students the reasoning behind why some patients are on insulin just during their hospital visit and maybe not taking their Metformin like they do at home…so it is up to the experienced nurses to teach the new nurses."

All eight participants described insufficient preparation surrounding diabetes management in their nursing courses. Seven participants expressed the lack of clinical or hands-on experience, which in turn curtailed the ability to think critically. In contrast, one participant reported her clinical hours gave her time to care for patients with diabetes, and the experience helped her when she started working her current medical-surgical unit. Nonetheless, the vast majority conveyed dissatisfaction and wished they had been better prepared to care for patients living with diabetes.

Theme Two: Biases towards Patients

Patients that are educated about their disease process and understand how a healthy lifestyle can positively influence their lives will ultimately have improve health outcomes (Paterick et al., 2017). From their experiences caring for patients living with diabetes, the participants communicated strong viewpoints of patients' lack of education and noncompliance. Molly asserted "that some patients do want to learn" and described a situation where the patient did not know anything about diabetes and had been living with the disease for some time. Insufficient knowledge and noncompliance were communicated as negative biases that hindered their ability to care for this population. Bias denotes the attitudes or stereotypes that alter our understanding, actions, and judgments in a conscious or unconscious manner (Penzias, 2016). Unconscious attitudes that trigger unintentional discriminatory behavior are defined as implicit bias (Narayan, 2019). Alternatively, explicit bias refers to the attitudes and beliefs individuals have about a person or group on a conscious level (Salles et al., 2019). As Sally communicated, "in terms of the patient, they're not compliant…so we get repetitive patients. They are losing their toes, so those non-compliant people keep coming back [and] I know sometimes our education doesn't work…but as nurses, we do our best… [talking about a patient] and sometimes we nurses are like okay, if he doesn't care what are we doing." Participants conveyed both implicit and explicit biases directed at this population. Patient knowledge gap and patient compliance were two subthemes that emerged from the participants' biases regarding patients living with diabetes.

Patient Knowledge Gap

Knowledge is power. However, when people living with diabetes are not knowledgeable about their disease, their wellbeing is in jeopardy. Zowgar et al. (2018) found that patients' knowledge regarding diabetes self-management was deficient. All participants described how

patients living with diabetes seem to lack knowledge surrounding diabetes self-care. This lack of knowledge is a concern. Jane elaborated on her perceptions and discussed that "the level of education of the patient makes it difficult to care for this population…because the nurse is well prepared to educate the patient but if the patient does not have enough or adequate level of education about diabetes, you know, they will not follow our recommendations or our education." In agreement, Maria shared that "despite her efforts to teach, most of this population does not listen and does not want to learn." The same disappointment seemed to resonate with Krystal as she explained, as they [patients with diabetes] leave the hospital, she sees them come back, and they are still not educated about their disease."

Several participants described possible barriers that people with diabetes have, such as lack of resources in the community, language barriers, culture barriers, financial limitations, low health literacy, and age. Jessie felt that elderly patients know they have diabetes, but they are "not knowledgeable" in the sense that they know how to eat properly and make wise choices. Moreover, all participants expressed frustration that a patient that is not knowledgeable makes their job harder. Heather portrayed her frustration by trying to justify reasons as to why this population "doesn't comprehend what we are teaching them…I think it is cultural because you tell them about their diet, and you can lecture them over and over and over…then the family member brings them five snicker bars…and you tell them, listen, you can't eat that."

Health disparities are defined as preventable differences in the burden of disease or opportunities to achieve ideal health that are experienced by socially disadvantaged populations (Centers for Disease Control and Prevention, 2018). Jennifer described the patients' lack of education regarding their disease as a difficult barrier but highlighted the reality that "maybe

their background and what they have access to regarding health literacy and, you know, the truth is, is that not everyone has access to care and the best information."

Patient Compliance

Almost 50% of people living with type 2 diabetes fail to attain acceptable glycemic control (Polonsky & Henry, 2016). Poor medication adherence, poor eating habits, and lack of exercise can be factors that contribute to a patient being labeled "non-compliant." With the number of people diagnosed with diabetes increasing at an alarming rate, the reasons why patients are noncompliant must be understood.

The participants' frustration was evident as they described the majority of patients admitted to the hospital and their medical-surgical units as non-compliant when it comes to diabetes self-care. All participants communicated that patients who were unable to control or maintain blood glucose levels within a normal range adversely influenced how they cared for this population. Molly described how some patients try to eat correctly, but a scarcity of education and resources may perhaps be what obstructs them from being compliant. Nonetheless, participants displayed biases surrounding noncompliant patients. Maria generalized patients living with diabetes as a "common thing to see, [as] we call them frequent fliers…they always come in with a lot of issues with their blood sugar high…and it seems to me it has just gotten progressively worse." Maria further explained that "these patients" do not change their lifestyle as far as what they are eating. The re-occurrence of patients living with diabetes returning to the hospital was a negative perception and appeared to echo with other participants.

Jones-Burkes (2020) highlighted the correlation between implicit bias and healthcare disparities. Nurses with implicit or explicit biases may demonstrate less compassion and spend less time with certain patients (Narayan, 2019). The participants felt strongly about their

experiences caring for patients with diabetes. As Jessie shared why it was so difficult to care for this population, she said, “from what I do see, a lot of them are non-compliant; in my experience…sometimes you explain to them… you are on a diabetic diet, you can only have this, and you know at home they eat whatever they want.” Moreover, Jessie described once these patients “get into the hospital and have restriction; they’re not happy about it.” Overwhelmingly, the participants believed the patients they cared for with diabetes were lacking the education required to care for themselves and were deficient in self-care; thus, making them “non-compliant patients.” The participants’ preconceived or unconscious attitudes that prompted the unintended judgments solidified the biases towards patients living with diabetes.

Theme Three: Current Clinical Environment

A healthy work environment for nurses is essential if nurses are to lead the way in improving health care (ANA, 2021). However, the clinical environment can be filled with multiple stressors and unique challenges for direct care nurses. Nurses need to be supported in their clinical environment by their organization, leaders, and peers. A healthy work environment where nurses feel supported enables nurses to provide high-quality, compassionate care (AACN, 2021).

According to the participants, the current clinical environment influences how they can confidently care for this population. The participants expressed how both positive and negative influences factor into the care they provide. All participants described organizational support as a positive, whereas increasing clinical demands placed on them were described as a negative. Valuing organizational support and increasing demands were the two subthemes that emerged from the current clinical environment theme.

Valuing Organizational Support

The participants described the support they received on their medical-surgical units from a variety of individuals. All participants discussed the importance of having a Certified Diabetes Educator (CDE) that they could reach out to for guidance and education for them and for their patients. The CDEs working in the clinical environment provide education and support in diabetes management for both patients and nurses (Massey, 2019). Jane explained, "this hospital is the only place that I have seen a diabetic educator she is amazing, and I have to say that she will not overlook any detail with our diabetic patients… [she is] always on top of it." Heather asserted, "the positive support I received from the CDE helped me build my confidence to care for the diabetics on the unit." Before the CDE was employed on her unit, Maria discussed how the nurses "did not know about how Lantus [long-acting insulin] worked with patients at nighttime." All participants expressed how having a CDE was a valuable support to them and their patients. Maria described how the CDE keeps all the nurses up to date with new diabetes medications and treatments. Molly recommended that nursing schools consider bringing a CDE into the classroom and sharing their experiences in caring for patients with diabetes in the hospital setting.

Besides the support the CDE provides to the nurses, the participants reported they were fortunate to have other nurses and other disciplines on their unit that served as role models that were extremely helpful. Several participants described the support they received to care for this population from their clinical educators, nurse practitioners, registered dieticians, pharmacy colleagues, and unit supervisors. "Krystal" conveyed that the dietitians were always available to "talk to the patients if I am unsure about the kind of diet they need to be on." Nurse practitioners and unit clinical educators also served as a tremendous support to the participants. Heather

shared she never felt she was alone as she could always reach out to the nurse practitioner if the CDE was not available. The organization's support for nurses caring for patients living with diabetes was evident and described as invaluable to the participants. Molly discussed whenever she feels overwhelmed, she can count on her unit clinical educator to be there for her, and when it comes to questions regarding her patients living with diabetes, “she is always there is answer any questions.” All participants confirmed that despite the busy work environment, having support from other healthcare personnel had a positive influence on their perception of organizational support.

Increasing Demands

Increased nurse-to-patient ratios for direct care nurses can negatively affect patient safety and patient outcomes (Muller de Magalhaes et al., 2017). Lower nurse-to-patient ratios are one-way healthcare organizations can reduce the stress level for direct care nurses (Masterson, 2017). The participants described how they had observed an increase in the number of patients with diabetes on their medical-surgical units. Maria explained how the incidence of patients living with diabetes on her unit has “dramatically increased” over the past several years. Additionally, she noted that on her medical-surgical unit she might have “up to six patients and at any given time and all patients are diabetic which takes extra time to competently care for them and when you have so many there just does not seem to be enough time.” Similarly, Krystal conveyed that when she first started, she knew she would be caring for patients living with diabetes, but “now my assignment today I have six patients lately four out of the six are diabetic patients and they range from being in their 30s to being in their 90s.”

Caring for patients with diabetes takes time, and increasing the number in a nurses’ assignment hampers their ability to care for this population efficiently. Additionally, Sally

explained, “it’s a lot…sometimes we get all five of our patients with diabetes…I would say 60 to 75 percent of the population we see are diabetics.” Molly elaborated and confirmed, “I get more diabetics than ever before… I used to get, last year, maybe two to three diabetic patients, and now I get at least four out of my six…having that extra sixth patient [with diabetes] means I have to run for each meal…I am on the run trying to get everything done.”

The participants all described the current clinical environment as having either a positive or a negative influence on how they perceive how it affects their care to patients living with diabetes. As described by the participants, the healthcare organizations that support nursing will contribute to nurses being able to care for their patients competently. Alternatively, the increased diabetes patient load hindered the participants’ ability to feel confident in caring for this population.

Theme Four: Patients’ Behaviors Affect Nurses’ Emotions

The participants were asked to describe how they felt when caring for patients living with diabetes on their medical-surgical unit. Emotions can play an integral part in how nurses care for their patients and influence patient safety (Heyhoe et al., 2015). Bandura emphasized that people rely on their emotional states in judging their capabilities, which can lead to interpreting their stress reactions as a sign of weakness to poor performance (Bandura, 1994).

Remarkably, all participants conveyed how their emotions were determined on how compliant the patient was. In other words, if the patient was doing well in their self-care and understood their disease process, the participant was happy or satisfied. Conversely, if the patient was non-compliant and not knowledgeable about their disease process, the participant expressed feelings of sorrow. Most participants emphasized feelings of being sad**.** Other descriptions of their feelings were nervous, depressed, and anxious.

Maria shared, “it's kind of like emotional for me… you try to make the best out of it, and you try to teach as much as you can, not just to them, but also to the family…but it does kind of feel like a losing battle because you see them come in, over and over again.” The frustration in the way “Maria” described her feelings were similar to Sally who conveyed, “it makes me really sad when you see that he [the patient] already has a one leg foot gone and that he is to lose another one…so, we see a lot of these kinds of patients that makes me really sad, to be honest with you.” The same feelings of sadness echoed with Krystal who explained, “it depends on those patients who are elderly who have diabetes, it’s kind of makes me feel a little sad because they've gotten to a point where they are, you know, no matter what they eat, how little or what kinds of foods they eat their sugars are so out of control…it is heartbreaking, it’s so sad.”

In contrast, when patients were doing well and displayed optimal self-care diabetes management, participants described positive emotions. Jessie noted that “as long as I can have an impact, or hopefully make a difference in their lifestyle condition, it makes me feel confident and makes me feel good…I guess you sometimes get discouraged when you see you're trying different things or giving them different options and they [patients] just want to continue to eat what they want, but when they understand and try, I am happy.” Nurses want their patients to do well and stay healthy after they leave the hospital. Janeprofessed, “I feel proud of my patient that is compliant and knows about their illness.”

Emotions play a vital role in the caring process. The participants shared feelings aroused when the thought of caring for patients living with diabetes was asked of them. The participants confirmed that positive emotions are formed when nurses feel that care has met its objectives, and conversely, negative emotions arise when those objectives are not met. Nurses need to support their patients and be mindful of behaviors that can create positive and negative emotions.

Chapter Summary

In Chapter four, information regarding the participants, data collection, data analysis, and findings of the study were presented. Eight nurses who provide direct patient care to patients living with diabetes on a medical-surgical unit were interviewed. The study aimed to explore and describe nurses' perceptions of self-efficacy related to caring for patients living with diabetes. The nurses who participated in the study were a heterogeneous group ranging from 20-50 years old, and their years of experience varied from less than three years to over 21 years of experience.

Four major themes and six subthemes emerged from the three levels of analysis, open coding, axial coding, and selective coding. NVivo 12 was utilized to assist in the development of codes and in organizing the data. The four major themes, (a) educational preparation, (b) biases towards patients, (c) current clinical environment, and (d) patients' behaviors affect nurses' emotions, described nurses' perceptions surrounding caring for this population. All participants were willing to discuss their perceptions, both positive and negative. Overall, the participants felt that they received insufficient preparation in their undergraduate nursing education, specifically related to diabetes management. The participants' biases towards patients living with diabetes negatively influenced how the participants viewed this population. The findings included the theme of the current clinical environment where organizational support proved to give the participants the confidence to care for their patients with diabetes completely. On the other hand, increasing diabetes patient load made it difficult for participants to have the time needed to provide care to this population. Lastly, nurses' emotions were directly linked to the patient's behavior surrounding their disease.

The following chapter will include a summary and integration of the findings with current literature and how the themes are linked to Bandura's four sources that determine

perceived self-efficacy in caring for patients living with diabetes. Additionally, chapter five will summarize the implications for nursing education, practice, research, and public policy based on the study findings.

Chapter Five
Discussion and Summary

The purpose of this qualitative descriptive study was to explore and describe medical-surgical nurses' perceptions of self-efficacy related to caring for patients living with diabetes. This chapter includes a discussion and interpretation of the study findings. Bandura's Self-Efficacy Theory was applied to understand and describe nurses' self-efficacy related to caring for this population. Additionally, integration of the findings with previous literature is presented. By generating new knowledge about nurses' perceptions on influences that impact nurses' self-efficacy in caring for patients living with diabetes, chapter five will summarize the implications for nursing education, practice, research, and public policy. The chapter concludes with a discussion of the limitations of the study, recommendations for future research, and a summary. A qualitative descriptive study methodology was utilized to answer the research question: What are medical-surgical nurses' perceptions on the influences that impact self-efficacy in caring for patients living with diabetes?

Interpretation of the Findings

Four major themes emerged from the participants: (a) educational preparation, (b) biases towards patients, (c) current clinical environment, and (d) patients' behaviors affect nurses' emotions. Additionally, six subthemes were identified: (a) hands-on experience, (b) nursing curriculum, (c) patient knowledge gap, (d) patient compliance, (e) valuing organizational support, and (f) increasing demands.

Overall, medical-surgical nurses' self-efficacy is deficient, as expressed by their perceptions of the influences that impact how they care for patients living with diabetes. According to Bandura (1977, 1994), four sources determine perceived self-efficacy: performance accomplishments or enactive mastery experiences, vicarious experiences, verbal persuasion, and

physiological states or emotional arousal. Bandura (1997) defined self-efficacy as an individuals' perception of their capabilities to produce different levels of performance. Self-confidence is a broad term that refers to an individual's belief in one's personal worth. In contrast, self-efficacy refers to beliefs an individual has regarding performing specific tasks (Nirmala, 2017), such as caring for patients living with diabetes. Notably, the study's findings align with the four sources that determine perceived self-efficacy as defined by Bandura.

Educational Preparation

Nursing students must be prepared to practice competently within the growing and changing healthcare system today (Benner et al., 2010; IOM, 2011). All participants described insufficient preparation regarding diabetes management in their nursing courses, and most expressed limited clinical or hands-on experience, which in turn curtailed their ability to think critically. Similarly, all participants expressed an overall deficiency of educational training in their undergraduate program to care for patients with diabetes, which hampered them from providing optimal care. Conversely, it was only with time and working on a medical-surgical unit that participants felt more confident in their care for patients living with diabetes.

Connection to Theoretical Framework

Insufficient preparation directly relates to Bandura's first source of self-efficacy, performance accomplishments. Performance accomplishments are determined when a person has mastered a task or mastered controlling an environment (Bandura, 1977, 1994). Participants felt they did not have suitable self-efficacy due to inadequate training. Interestingly, Bandura believed that performance accomplishments have the strongest correlation to self-efficacy (Bandura, 1977, 1994). The findings revealed that for nurses to be successful and have high self-

efficacy in caring for this population, they must have relevant didactics and enriched, hands-on experiences.

Biases towards Patients

The participants described how their past experiences caring for patients with diabetes shaped their current perceptions. Patients' lack of education and noncompliance were conveyed by all participants as negative influences that hampered their ability to care for this population. The participants' perceptions stemmed from past experiences of caring for this population. A significant refrain expressed by all the participants was the need to educate this population on their disease process. Non-compliant patients were reported by all participants as a barrier to successfully caring for this population while they were in the inpatient hospital setting.

Connection to Theoretical Framework

All participants displayed a degree of bias towards patients with diabetes. Biases can exist among people of different professions and can be both positive and negative. However, when nurses exhibit negative bias towards any group of individuals, the results can have damaging consequences (Narayan, 2019). The participants believed the patients' educational shortfalls and decreased compliance were circumstances out of their control. FitzGerald and Hurst (2017) discovered a negative correlation between the level of bias and the level of quality care. As described in the previous section, Bandura's performance accomplishments are also related to whether a person has mastered control of their environment (Bandura, 1977, 1994). The participants' bias towards patients living with diabetes correlates with the sense of loss of control in managing this population; thus, resulting in diminished self-efficacy. The findings bring attention to the fact that implicit and explicit biases exist, and solutions to mitigate these biases need critical attention.

Current Clinical Environment

The participants all described the current clinical environment as having either a positive or a negative influence on how they perceive the influences that impact their care to patients living with diabetes. Organizational support was conveyed by all participants as a positive, whereas increasing clinical demands placed on them was a negative influence. Organizational support was noted as support from several sources such as a certified diabetes educator (CDE), clinical educators, and nurse practitioners. Examples of such support were verbal encouragement and role modeling. However, all participants shared their sense of the importance of having a CDE who provided support and education. The CDE served as a role model and directly related to improving their self-efficacy in caring for this population. Alternatively, the participants conveyed an increase in their patient load, which hindered their ability to care for patients living with diabetes confidently. Moreover, participants felt this trend in increased diabetes patients would not subside but continue to increase.

Connection to Theoretical Framework

Bandura's second and third sources that determine perceived self-efficacy are vicarious experiences and verbal persuasion. Vicarious experiences come from a situation in which levels of self-efficacy are either increased or decreased as a result of observing another person or group's performance (Bandura, 1994). Verbal persuasion, the third source of self-efficacy, comes from positive or negative verbal feedback related to the task performed (Bandura, 1994). The participants all described positive vicarious experiences and verbal persuasion they experienced in their current work environment. The CDE played a significant role in promoting self-efficacy as a positive role model for all the participants. Additionally, participants communicated examples of verbal encouragement received by clinical educators, supervisors,

and nurse practitioners in their current clinical setting. Viewing successful people and receiving positive verbal feedback contributed to the participants' self-efficacy in caring for patients living with diabetes. The findings highlight the importance of positive support for medical-surgical nurses if they are to be successful and increase self-efficacy in caring for this population.

Bandura's performance accomplishments demonstrate once again a strong correlation to the participants' feelings of loss of control of their clinical environment (Bandura, 1977, 1994). The participants portrayed a clinical environment where they did not have control over how many patients with diabetes they were assigned in each shift. The uncertainty of not knowing how many patients with diabetes would be assigned, coupled with the fact that the assignment often increased to six patients, decreased the opportunity to provide optimal care. Hence, self-efficacy in caring for this population also diminished.

Patients' Behaviors Affect Nurses' Emotions

The participants discussed that their emotions towards patients living with diabetes were determined by the patient's compliance with their disease. The findings revealed either a negative or a positive emotion, based on how the patient managed their disease. Most participants described feelings of sadness when the patient was not compliant, and the prognosis was poor. Conversely, participants expressed positive feelings, such as being happy or proud if the patient was compliant and the prognosis was positive.

Physiological State

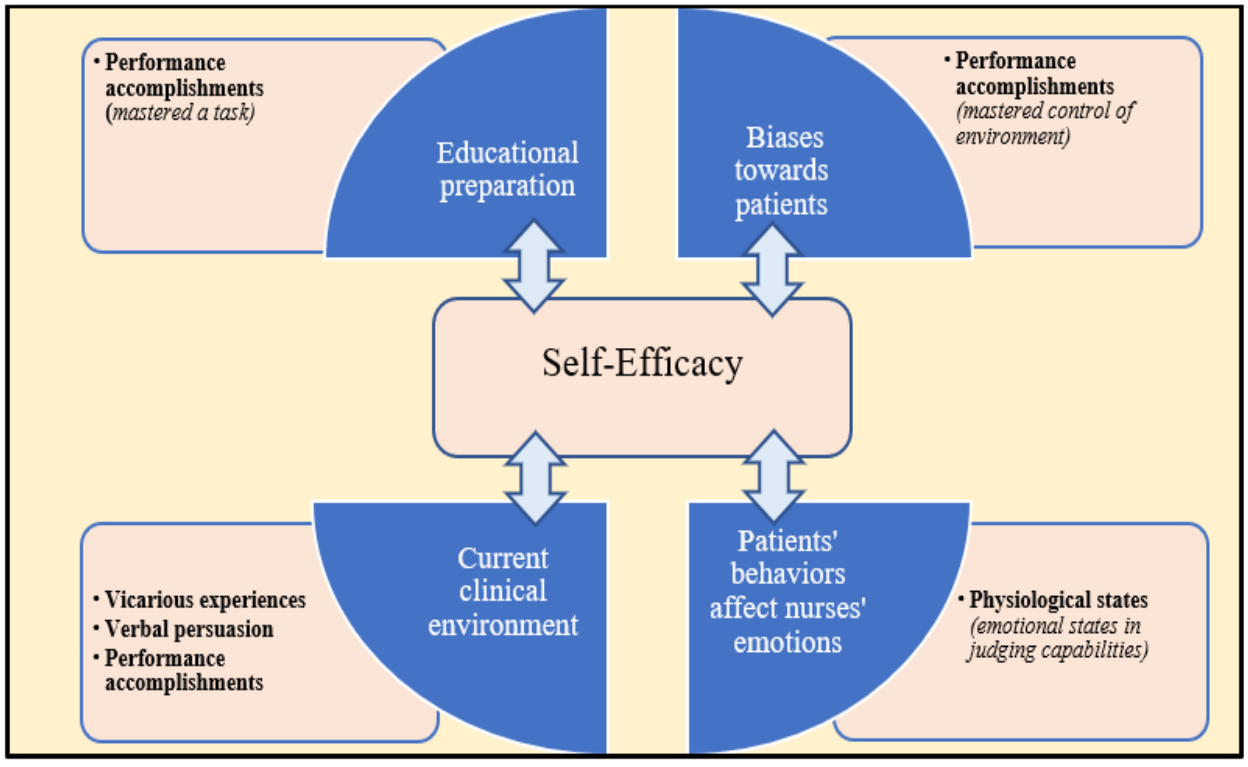
Bandura's fourth source, the physiological state of self-efficacy theory, is linked to the signal that one's body is sending related to performance and maintenance of self-efficacy (Bandura, 1994). Moods, emotions, physical reactions, and stress may influence how an individual feels about their self-efficacy.

Connection to Theoretical Framework

Bandura shared that people rely on their emotional states in judging their capabilities, which can lead to interpreting their stress reactions as a sign of weakness to poor performance. Four major themes regarding the perceptions of the influences that affect nurses' self-efficacy in caring for patients living with diabetes emerged from the data: (a) educational preparation, (b) biases towards patients, (c) current clinical environment, and (d) patients' behaviors affect nurses' emotions. The themes align with the four sources, as defined by Bandura, that impact perceived self-efficacy (see Figure 3). The study's findings demonstrate that participants' negative emotions can lower self-efficacy in caring for patients living with diabetes.

Figure 3

Study's Findings and Integration with Theoretical Framework



Integration of the Findings with Previous Literature

The overarching purpose of this study was to explore and describe medical-surgical nurses' perceptions of self-efficacy related to caring for patients living with diabetes. The research question, *what are nurses' perceptions on the influences that impact self-efficacy in caring for patients living with diabetes on a medical-surgical unit,* focused on the influences that the participants described as impacting self-efficacy. No previous studies that explored medical-surgical nurses' perceptions of self-efficacy regarding caring for patients living with diabetes were found in the literature; however, other relevant and related studies are included for comparison.

Educational Preparation

The Institute of Medicine (IOM) challenged Schools of Nursing (SON) to evaluate current curricula and develop new approaches that prepare nurses to deliver high-quality care in the 21st century (IOM, 2010). Nursing students must demonstrate proficiency in both applied and theoretical knowledge (Potter, 2018). Student success depends on optimum preparation. It is the SON's responsibility to prepare nursing students to maintain patient safety while providing high-quality care, as the IOM (2010) recommended, as a confident registered nurse. Potter (2018) found the main reasons why nursing students failed were incorrect medication administration, lack of knowledge, and poor clinical choices. In this study, participants described not feeling adequately prepared to competently care for patients living with diabetes. The perceptions of inadequate preparation went beyond the didactic coursework and included a desire for more hands-on or clinical hours specifically with this population.

The healthcare system today is complex and fluid. Schools of Nursing (SON) have relied on traditional curricula, making it challenging to keep up with the changing healthcare environment (Neville-Norton & Cantwell, 2019; Phillips et al., 2013). Nonetheless, there

remains a gap between the education of nurses and the nature of contemporary nursing practice in today's clinical settings (Benner et al., 2010; Yancey, 2015). Resembling the finding from this study, Zamanzadeh et al. (2015) found that new graduate registered nurses described feeling overall inadequately prepared to work in the clinical setting. Three major areas were reported by the nurses; poor practical skills, limited academic knowledge, and poor communication skills (Zamazadeh et al., 2015). Similarly, Jamshidi et al. (2016) discovered that nursing students in Iran felt they did not have sufficient knowledge and were inept in the necessary skills to benefit from the clinical learning environment.

Yacoub et al. (2014) found a positive correlation between perceived knowledge and actual diabetes management knowledge among nurses. Nevertheless, both perceived and actual knowledge of diabetes management were found to be deficient (Yacoub et al., 2014). The medical-surgical nurses who participated in this study described how self-efficacy only grew with years of experience working with patients living with diabetes. The insufficient diabetes management knowledge correlates with the nurses' perception of self-efficacy in their ability to provide optimal diabetes care (Lange & Pearce, 2017). Thus, understanding the perceptions that affect a nurses' self-efficacy is vital in providing competent care (Alavi, 2014).

Biases towards Patients

In the same respect that nurses have an ethical and legal responsibility to maintain professional competency (ANA, 2019), nurses should strive to be nonjudgmental when caring for patients. Unfortunately, preconceived ideas about patients can hamper a nurse's ability to provide optimal care confidently. Some of these preconceived ideas include patients living with diabetes not taking care of themselves and not maintaining a healthy diet. Johansson et al. (2016) discussed that living with diabetes imposes many demands on the individual and requires

incorporating the disease into their everyday life. Nurses pride themselves on being caring and compassionate professionals. Nevertheless, preconceived ideas or biases do occur. Biases can be negative or positive, but negative biases, whether they are implicit or explicit, can affect our behaviors and decisions in a conscious or unconscious manner (Wright-Brown, 2020). Consequently, these biases can negatively impact patient outcomes (Gatewood et al., 2019).

The participants in this study described negative biases towards patients living with diabetes. All participants conveyed patients' insufficiency of education and noncompliance as a negative observation that hindered their care of this population. Nurses play an integral role in a patient's wellbeing. When negative biases interfere, the nurse will feel a loss of control, resulting in decreased self-efficacy.

Robstad et al. (2019) discovered intensive care nurses felt obese individuals were lazy and less willpower than thin individuals had. Moreover, Robstad et al. (2019) purported that both implicit and explicit bias towards obese patients can impede optimal care delivery. Additionally, Hall et al. (2015) found that biases among healthcare providers significantly influenced patient-provider interactions, treatment decisions, and patient outcomes. As the participants described in this study, patients living with diabetes are subject to implicit bias from nurses simply due to their disease. Unfortunately, biases from healthcare providers such as physicians and nurses can contribute to health care disparities (Narayan, 2019). Additionally, Edgoose et al. (2019) asserted that a higher level of bias towards a group or individual could decrease empathy and inequality in patient care.

Current Clinical Environment

Nurses want to feel supported in the clinical environment in which they work. Support from the healthcare organization is vital for nurses to provide competent, safe care. The level of

commitment from healthcare organizations to ensure proper and continuing diabetes education varies from organization to organization (Yu et al., 2018). The participants in this study communicated that organizational support was a positive influence that gave them the self-efficacy to care for patients living with diabetes; whereas, increasing clinical demands placed on them was a negative influence. The participants described key individuals that provided support in the form of role models and verbal encouragement.

All participants reported the certified diabetes educator (CDE) was instrumental in supporting them and improved self-efficacy in caring for this population. A CDE is a health professional, such as a registered nurse, certified in educating, supporting, and promoting self-management of diabetes (Massey, 2019). Stewart (2019) highlighted that creating this role increased diabetes awareness among nurses and assisted with a variety of diabetes resources for both patients and nurses. Wilson et al. (2019) found when hospitals invested in a professional nurse who was either a clinical diabetes nurse specialist or certified diabetes educator, nurses' knowledge regarding diabetes significantly improved. Additionally, health outcomes such as decreased readmission rates and improved hypoglycemic outcomes were reported (Wilson et al., 2019).

An increase in the number of patients with diabetes in participants' patient assignments was described as a negative influence that impeded nurses' ability to care for patients living with diabetes confidently. Moreover, changing complex healthcare settings and increased workloads have led to increased nurse turnover (Lee et al., 2017). The increased ratio of patients living with diabetes added to the participants' daily workload was described as additional stress to the everyday work environment that was out of their control. Bandura's performance accomplishments demonstrate once again a strong correlation to the participants' feelings of loss

of control of their clinical environment (Bandura, 1977,1994). A healthy clinical environment is vital to a nurse's wellbeing. According to Holland et al. (2019), increased workloads have a harmful influence on nurses' wellness and turnover. Healthcare organizations that prioritize nursing work environments have less burnout and lower turnover rates (Esposito et al., 2020).

Patients' Behaviors Affect Nurses' Emotions

The participants described either a positive or a negative emotion towards patients living with diabetes based on the status of the patients' compliance. A non-compliant patient should not elicit negative emotions from a nurse. Bandura (1994) shared that people rely on their emotional states in judging their capabilities, which can lead to interpreting their stress reactions as a sign of weakness to poor performance. Brundisini et al. (2015) found providers' perspectives on nonadherence and the patients' view on how to improve adherence differ. Providers do not always understand the barriers that patients living with diabetes might have. Health beliefs about diabetes are connected to social or cultural understandings about the body and can affect compliance (Brundisini et al., 2015). Conversely, nurses need to recognize cultural differences and how a patient's cultural beliefs can shape their diabetes self-management. These differences can lead to misunderstandings that spark emotional responses by nurses, resulting in lowering a nurses' belief to care for the patient competently.

Implications of the Findings

The importance of research to the nursing profession goes beyond the simplicity of discovering new knowledge. According to the American Association of Colleges of Nursing (AACN), nursing research provides a body of knowledge that helps advance the nursing practice (AACN, 2019). The study findings generated new knowledge surrounding self-efficacy and nurses' perceptions of caring for patients living with diabetes. The findings of this study served

as a foundation for the following recommendations for nursing education, practice, research, and policy.

Implications for Nursing Education

The National League for Nursing (NLN) believes in the importance of positioning nurse educator preparation at the forefront of educational reform to advance the nation's health (2018). Nursing faculty are faced with various challenges and demands to meet the complexities of educating future nurses to be successful in their practice (Benner et al., 2010). Benner et al. (2010) asserted that new nurses need to be trained to practice safely, competently, and compassionately. Both the AACN (2010) and the NLN (2016) have emphasized the need to establish best practices in formal pedagogical preparation. Nursing academia should ensure the nursing curriculum will prepare students to practice competently within the growing and changing healthcare system today (IOM, 2011). Patient outcomes are directly related to the level of care delivered by nurses (Recio-Saucedo et al., 2018). Coster et al. (2018) purported that well-educated nurses can decrease the threat of patient mortality. Ensuring nursing students are prepared to provide competent care is essential in building self-efficacy and protecting patients from negative outcomes. The AACN recommends that a re-evaluation of traditional approaches to clinical nursing education is needed (AACN, 1999). The AACN further highlighted that SON must foster new clinical training models in collaboration with healthcare delivery sites other than the traditional hospital settings. The recommendations from the AACN are in direct line with Benner et al. (2010) by understanding the clinical experience must be relevant for the student to flourish.

Curriculum Design, Evaluation, and Delivery

One prominent finding in this study was that each participant described their undergraduate nursing program as not preparing them proficiently to care for patients living with diabetes. The paucity of knowledge and hands-on experience was echoed as a common theme among the participants. Schools of Nursing (SON) need to conduct an immediate assessment of their current curriculum regarding diabetes management.

The American Association of Colleges of Nursing (AACN) is currently updating the Essentials of Baccalaureate Education for Professional Nursing Practice (2008). Schools of Nursing have utilized the Essentials to transform baccalaureate nursing education by providing the curricular elements and framework for building the nursing curriculum for the 21st century (AACN, 2008). The nine Essentials outline key concepts and outcomes expected for a nurse graduate to practice competently within a multifaceted healthcare system (AACN, 2008) and serves as a guide for SON. However, it is not a roadmap that delivers an algorithm on achieving each of the essentials. According to Oermann (2019), there is a great deal of flexibility in how SON design and revise curricula to meet program outcomes, which can be an asset. Unfortunately, this flexibility can make it challenging for SON to decide the best for the curriculum and students (Oermann, 2019). Schools of Nursing need to regularly evaluate their curriculum and implement a continuous formative curriculum review process to ensure a review of current literature and an understanding of current trends in healthcare.

Moreover, SON should evaluate other nursing programs, implement evidence-based teaching strategies, and conduct robust research to ensure students are proficiently prepared to care for patients living with diabetes. However, even though the curriculum defines what learning is expected, without educational assessment, there is no accountability for improvement

(Poindexter et al., 2015). Educational assessment needs to go beyond just collecting data. Educators must review assessment data to analyze results and improve upon the process while keeping students' success at the forefront (Kuh et al., 2015). Furthermore, the evaluation must reflect the multidimensional aspect of competence by examining the information collected and determining whether the desired learning outcomes were met (Pondexter et al., 2015).

Most nursing programs based their original curriculum on the Tyler Model, in which the educator imposes experiences of content and subject matter on students, in sequenced, measurable objectives (Crow & Bailey, 2015). The curriculum includes behavioral learning objectives, cumulative learning experiences, and standardized measurement of learner performance based on the student population's needs (McDermott, 2012). Traditional models such as Tyler's curriculum model might have been useful decades ago, but in today's undergraduate programs, faculty need to consider the optimal model to serve both the SON and the students. Crow and Bailey (2015) believed to better serve nontraditional students who struggle, nursing faculty must find pedagogical spaces within and beyond the accountability and accrediting mandates that shape nursing programs. All students can benefit from learning environments that promote positive relationships. According to Crow and Bailey (2015), faculty who integrate relational pedagogies with the more conventional pedagogies found in nursing programs can help students succeed.

Instructional design is a systematic way to approach learning. An instructional designer's role is to create something that enables a person or group of people to learn about a topic, develop and improve a set of skills, or encourage the learner to conduct a further study (Brown & Green, 2016). The best instructional designs have a strategy for evaluating whether the instruction produced and delivered achieved the desired result and how the design might be

improved (Obizoba, 2015). Instructional design has led to the development of many models to improve teaching and ensure quality in education (Goksu et al., 2017). However, Krouse (2015) believes nurse educators do not always utilize aspects of instructional design in their teaching.

Gagne's model of instructional design is a systematic way to approach the method of instruction. According to Wong (2018), essential to Gagne's ideas of instruction is what he considers internal conditions (what the learner knows before the instruction) and external conditions (stimuli that are presented to the learner). The first step in Gagne's theory is specifying the kind of outcomes to be achieved. He categorized these outcomes into five types: verbal information, intellectual skills, cognitive strategies, attitudes, and motor skills (Instructional Design Central [IDC], 2018). The second step is to organize appropriate instructional events. Gagne's "Events of Instruction" consists of the following: gaining attention, informing the learner of the objective, stimulating recall of prerequisite learning, presenting the stimulus material, providing learning guidance, eliciting the performance, providing feedback, assessing the performance, and enhancing retention and transfer. Miner et al. (2015) included integrating Gagne's nine events of instruction into a prelicensure medical-surgical nursing course over three semesters. They found that overall final grades improved, and student evaluations indicated enhanced teacher mastery, student self-efficacy, and student enthusiasm. Wong (2018) suggested the Gagne's nine events of instruction cater to many different learning styles and can help to facilitate the learning process. Schools of Nursing should consider Gagne's model of instructional design, which is based on the information processing model of the mental events that occur when adults are presented with various stimuli and focuses on the learning outcomes and how to arrange specific instructional events to achieve those outcomes (Khadjooi et al., 2011; Wong, 2018).

Another instructional design model to consider is the Analysis, Design, Development, Implementation, Evaluation (ADDIE) created by the Center for Educational Technology at Florida State University (Goksu et al., 2017). According to Brown and Green (2016), ADDIE is not a specific instructional design/development model but an illustration of the conceptual components of many instructional designs. Most of the current instructional design models are spin-offs or variations of the ADDIE model, such as the Dick and Carey Model and the Morrison, Ross, and Kemp Model. Conversely, some believe the ADDIE model is not a "true" model but an illustration of conceptual components of many other models (Brown & Green, 2016). The ADDIE model correlates to the PLAN-DO-CHECK-ACT (PDCA) model utilized as a Performance Improvement methodology in the hospital setting. The PDCA model's simplicity is one reason it has successfully served as a model to guide performance improvement projects. However, one model does not fit all, and with instructional design modes, the same is true. Depending on the curricula, it is vital to select the most appropriate instructional design model to develop robust courses with effective student-centered teaching strategies.

Concept-based Curriculum and Simulation-based learning

Each generation brings unique perspectives and talents, and even though faculty and students traditionally come from different age groups, nursing students can include Millennials, Gen X/Yers, and Baby Boomers (Weingarten & Weingarten, 2013). According to Hart (2017), most of the nursing students currently are considered millennial learners. However, educators should understand the best way all students learn. Onyura et al. (2016) noted that educators need to examine other knowledge resources, including understanding themselves, their learners, and an awareness of the support from their institution. Generational diversity in nursing is not a new issue, and educators have been working for the last 20 years to move away from traditional

lecturing towards incorporating techniques that clarify the connection between nursing theory and nursing practice (Crookes et al., 2013; Hart, 2017). There are distinct differences that educators need to recognize. Each generation has its shared characteristics, shaped by the current condition of that time (Barutcu & Ergin, 2017). Magorian (2013) recommended that nursing educators must utilize data to evaluate and assess the need for curriculum change, reduce redundancy of content, and increase their students' clinical reasoning ability through concept-based curriculum. Implementation of a concept-based curriculum in nursing education can be valuable if students are empowered to become more active in the learning process by teaching with interactive learning techniques such as simulation-based learning (Hart, 2017).

All participants expressed that more simulation with patients living with diabetes would have assisted in building their self-efficacy in providing optimal care. This important finding solidifies the need for SON to reevaluate the current curriculum surrounding simulation-based learning and focus on inpatient diabetes management. Schools of nursing can develop their simulation-based nursing education by joining a national organization that shares advanced simulation-based pedagogy. One such organization is the Association of Standardized Patient Educators (ASPE). The organization is an international organization of simulation educators dedicated to promoting best practices in applying simulated methodology for education, assessment, and research (Lewis et al., 2017).

Schools of Nursing should consider fewer lectures and more active learning methods such as simulation. Simulation-based learning is useful as both a teaching and evaluation method and is common in undergraduate and graduate nursing education (Raurell-Torreda & Romero-Collado, 2015). Simulation-based learning allows students to practice in a variety of real-life situations. Moreover, the NLN has endorsed simulation as an integral teaching approach to

preparing students for the demanding role of professional nursing**.** Participants recommended that simulation-based nursing education should focus on real-life scenarios with patients living with diabetes. Scherer et al. (2016) found that repeated exposure to a simulation scenario significantly improves knowledge, performance, satisfaction, and self-confidence in learning and evaluating simulation efficacy.

Technology

Technology has impacted almost every aspect of life today, and nursing education is no exception. Nursing students expect to use technology in the classroom, just as they use technology in other aspects of their life (Honey &Wright, 2018). Modern technology has revolutionized how we work, communicate, play and learn. The methods of curriculum delivery and the use of technology must be addressed in any curriculum development or redesign (Keating, 2015). According to Keating (2015), this includes the extent that technology will be utilized, the resources to obtain and sustain technology, and faculty development to use technology successfully. The instructional design process has numerous factors that must be considered, such as technology (Isman, 2011).

According to Wagner and Hulen (2016), many nurses choose to pursue their Bachelor of Science in Nursing degree online. Enrollment in baccalaureate nursing programs in the United States has increased nearly 6% in 2020 (Andrews, 2021). World-wide, the coronavirus disease 2019 (COVID-19) has dramatically increased the number of students now learning online. Moreover, the COVID-19 pandemic has forced many SONs to transition to online learning. A barrier that impedes faculty is the unfamiliarity with the technology needed to construct a quality learner-engaged online course (Sandars, 2012). As increasing numbers of registered nurses pursue a Bachelor of Science in Nursing degree, many choose online programs to reach their

goal, prompting nursing faculty to convert traditional face-to-face courses to an online format (Wagner & Hulen, 2016). However, providing an exceptional learning experience may prove difficult for faculty unfamiliar with the technology needed to construct a quality learner-engaged online course (Wagner & Hulen, 2016). Faculty can face many barriers, such as a lack of instructional design knowledge and support. Nonetheless, now more than ever, educators must balance design and functionality to deliver relevant, cost-effective, and accessible programs that consider geographic and scheduling barriers for students (Sinclair et al., 2017).

A collaboration with course designers is essential for online programs. Course designers are experts in streamlining the design and development of the course, supplying fresh ideas to engage learners while integrating current teaching pedagogy and technology tools (Wagner & Hulen, 2016). Keating (2015) shared that faculty think of technology as technology, and students think of technology as the environment. To mitigate the differences in how faculty view and use technology, SON should hire a course designer to be part of the team.

The growth in technology has led to many universities seeking the expertise of course designers. Course designers improve faculty technology skills and knowledge of new teaching methodologies to enhance the curriculum and the learner's engagement in online courses (Wagner & Hulen, 2016). Additionally, educators must ensure other structures and processes exist, such as a comprehensive program orientation, individualized academic planning, counseling, peer tutoring, and community nurse mentoring to support the nursing student (Fontaine, 2013).

Evidence-based Teaching Practice

The concept of evidence-based teaching practice (EBTP) has existed in nursing education for more than 25 years (Patterson & Klein, 2012). Contemporary nursing education is challenged

by the exponential growth of technology, as previously discussed. The participants in this study all conveyed suboptimal educational preparation regarding diabetes management. Schools of nursing need to look beyond the traditional classroom instruction and search for EBTP that stimulates learning. Research shows that EBTP strategies are likely to have the most significant impact on student results. Current nursing education calls for teaching that emphasizes active, integrative strategies. Thus, nurse educators must have knowledge about and are consistent with using strategies that facilitate transfer between theory and practice based on research (Culyer et al., 2018). Teaching strategies should be based on evidence that can be measured or evaluated for its effectiveness (Kalb et al., 2015).

Mitigating Bias

A key finding in this study was the biases the participants expressed towards patients living with diabetes. When nurses exhibit any bias towards a patient or group of patients, the consequences can be damaging (Narayan, 2019). Implicit or explicit biases can influence how a patient is treated and the level of care they receive (FitzGerald & Hurst, 2017). Nurses establish a trusting relationship with patients and families by upholding the values and ethics of the nursing profession (Milton, 2018). However, nurses' ethical principles can be diminished when biases play into the manner patients are viewed due to their disease.

According to Gatewood et al. (2019), nursing education does not adequately address bias that nursing students might possess, especially implicit bias. Despite diversity and cultural competency being at the forefront of the Essentials of Baccalaureate Education for Professional Nursing Practice (AACN, 2008), schools of nursing struggle to effectively teach these competencies. Conversely, when participants discussed their perceptions of people living with diabetes, they all referred to the population as “diabetics.” The American Diabetes Association

(2017) has called for a patient-centered communication style that avoids labeling people with their disease. It is vital for nursing faculty to receive training and educate nursing students on implicit and explicit bias and how-to bring awareness to students to recognize biases and mitigate these biases. Awareness is the first step. However, through preparatory and interactive evidence-based activities, nursing students can become aware and understand the impact biases may have on patients and their care. Interactive activities such as unfolding case studies and role-playing could foster a culture of awareness. Gatewood et al. (2019) had nursing students complete a self-assessment using the Implicit Association Test and participate in faculty-led discussions. Gatewood et al. (2019) demonstrated that students could learn how to recognize biases and understand how these biases affect nursing care by using mindful activities and conversations surrounding biases.

Implications for Nursing Practice

Nursing practice must evolve to deliver the needed level of quality care, especially for patients living with diabetes (Sullivan, 2018). The IOM (2011) has recommended that healthcare organizations ensure direct care nurses are current with the newest knowledge surrounding diabetes management to practice to the full extent of their education and training. Nurses must feel supported in the clinical setting to increase self-efficacy; thus, delivering optimal care. Organizational support is necessary if nurses are to feel confident and allow them to provide high-quality care (Nikitara et al., 2019).

Supporting Nurses

Healthcare organizations can support clinical nurses in several ways. Participants expressed the value of being supported in the clinical setting. Support received

from a certified diabetes educator (CDE), a clinical educator, or a nurse practitioner by the participants in this study was highlighted. However, one prominent view expressed by several participants was the valuable role the certified diabetes educator (CDE) played in supporting both the patients and nurses. Interestingly, one participant had worked at several other hospitals and had never had the experience of a CDE employed as part of the healthcare team. The CDE assisted in building the participants' self-efficacy, which improved their perception to care for this population. Additionally, CDEs educate the nurses and other healthcare team members on the most up-to-date medications and therapies for diabetes management. Hence, organizational investments, such as employing a CDE, could contribute to improved patient outcomes. Healthcare organizations can also support nurses by offering educational opportunities such as continuing education classes, webinars, and conferences. The American Diabetes Association (2021) offers several online courses and webinars for healthcare professionals, such as nurses, to expand their knowledge to better understand and manage patients living with diabetes. Nonetheless, a CDE provides tremendous support to nurses and patients. Healthcare organizations should consider the benefits of having a CDE as part of the delivery care team.

At each of the two hospitals where the study took place, a full-time CDE is employed. However, it takes a team of healthcare professionals to care for patients living with diabetes. One participant expressed how other healthcare professionals such as the clinical dietitians were always available to talk with the patients regarding their diet. Healthcare organizations need to understand just employing a CDE is not enough to care for this population successfully. As the participants highlighted, if the CDE was not available, they could reach out to a clinical educator, supervisor, nurse practitioner, or leader for the support they needed.

Additionally, participants described how patients' behavior affected their emotional state. When a patient understood their disease and was doing well, feelings of happiness arose. Alternatively, when a patient was not understanding their disease and not doing well, feelings of sadness and frustration were expressed. The participants reiterated the support they received from multiple team members. As one participant shared, when she would get frustrated, she knew she could always talk to her clinical educator. Healthcare organizations need to ensure that nurses feel comfortable openly discussing their feelings with peers and leaders, which can be accomplished by creating a culture of trust and teamwork.

Culture of Trust and Teamwork

A common theme that echoed with all participants was the organizational support they received from the entire healthcare team. Trust among the healthcare team is vital. As Molinsky and Gundling (2016) noted, one of the essential characteristics for a high-functioning team, maybe the most critical characteristic, is trust. Whether it is a team comprised of our peers or a multidisciplinary team, trust is the foundation that is needed for a team to function at a high level and therefore be successful (Molinsky & Gundling, 2016). Multidisciplinary teams consist of anyone who is part of the care delivery team. Physicians, nurses, nurse practitioners, certified diabetes educators, dieticians, pharmacists, and clinical educators may be part of the multidisciplinary team. Additionally, the patient and the family need to be included as they play a pivotal role in building a foundation of trust. According to Tung and Peek (2015), multidisciplinary teams will be necessary to implement diabetes care successfully. Healthcare organizations can support nurses and establish a culture of trust by ensuring leaders are authentic leaders.

Authentic leaders reflect on their behavior and seek feedback about how their actions affect others (Hughes, 2018). By reflecting and seeking feedback, it allows followers to assess the competence and morality of a leader's actions more accurately (Hughes, 2018). Healthcare organizations need to provide the resources necessary to develop and grow leaders to acquire these qualities. Interestingly, Fallatah et al. (2017) found authentic leadership had a significant positive effect on nurses' identification with their leader and organization by enhancing their occupational coping self-efficacy, which decreased their intentions to leave and helped create a culture of trust.

Mitigating Clinical Practice Demands

Healthcare has become progressively more complicated and is perceived by many patients as impersonal and highly complex (Flagg, 2015). Nurses face many challenges with increasing responsibilities. All participants discussed increasing workload demands surrounding patients living with diabetes. The findings of this study highlighted the need for healthcare organizations to evaluate current processes utilized in daily patient assignments in the clinical inpatient setting. Specifically examining the number of patients living with diabetes and ensuring this patient population is not the majority of a given assignment.

Another way healthcare organizations support nurses is to ensure a current and relevant Nursing Professional Practice Model (NPPM) is in place. The conceptual model should serve as the foundation for nursing professional practice while aligning with the organization's mission and vision. Leaders must ensure structures and processes are in place, so nurses support utilizing the model to guide their practice (Cordo & Hill-Rodriguez, 2017). It is vital for nurses of all levels, principally direct care nurses, to understand the components of their NPPM and how they use it as a guide in their daily practice (Winters, 2016). The essence of the NPPM is a

commitment to quality and exemplary practice. For example, a NPPM supports nurses in exercising independent judgment in the delivery of care and making decisions based on assessment and standards of practice. Nurses' input in developing a NPPM is significant if nurses are to take ownership of the model. A NPPM model should be built on the foundation of shared governance to achieve optimal outcomes. Furthermore, an environment fostering collaborative care and teamwork is emphasized to facilitate seamless care transitions.

Health Literacy

Some participants communicated insufficient health literacy as a possible barrier to justify this population's deficiency in education regarding diabetes self-care management. Healthcare organizations must reach outside the hospital's traditional walls and better engage with the community they serve (Woods, 2017). One way to accomplish this is by ensuring a diverse Board of Trustees are committed to the principles that set the standards for the organization (BHSF, 2018). However, healthcare organizations need to form relationships and collaborate with church leaders, educational institutions from all levels, parents, teachers, and other healthcare facilities in the community.

Williams et al. (2020) highlighted that health literacy is the degree to which a person can obtain, access, and understand basic health information and services needed to make appropriate healthcare decisions. One of Healthy People 2030 goals is to increase health literacy so people can easily understand and act on health information (Office of Disease Prevention and Health Promotion, 2021). Low health literacy levels can lead to poor patient outcomes and are associated with higher mortality rates (Greene et al., 2019).

Globally, a significant proportion of adults have some deficiencies surrounding literacy (Rudd & Baur, 2020). Over 90 million people in the United States have difficulty understanding

health information (Florida Literacy Coalition, 2017). About one in four adults in Florida are at or below the lowest literacy level, with Miami-Dade County one of the worse counties with 37.5% of the population at or below the lowest level of literacy (Florida Literacy Coalition, 2017). According to the Flordia Diabetes Advisory Council (2019), from 2011-2016, the total number of hospitalizations with diabetes as the first-listed diagnosis increased by 16%, from 14,771 to 17,208 in 2016. The rise in people living with diabetes admitted to Florida hospitals is significant. It is difficult to conclude if the number of admissions is related to lower levels of health literacy. However, Miller (2016) discovered that patients with higher literacy levels demonstrated higher levels of adherence to treatment, thus improving compliance and health outcomes.

Nurses need to view the patient as an individual and tailor education according to the patient's level of education and health literacy. Healthcare organizations should promote health literacy and how it plays a fundamental role in how nurses deliver care and educate patients. The first crucial step is to bring awareness to the problem of health literacy. Organizations can partner with local community leaders and help drive efforts to improve health literacy deficiencies. Additionally, workshops and continuing education classes should be offered within the organization for all healthcare professionals.

Community-Based Strategies

Several participants discussed how this population seems to keep coming back to the hospital and described by some as "frequent flyers." With the prevalence of diabetes growing, community-based strategies have gained attention. However, for people living with diabetes, programs have focused on individual behavior change without integrating change within the broader social framework or community setting (Tung & Peek, 2015). Patients living with

diabetes are only in the hospital for a short time. Once the patient goes home, they need to be able to care for themselves. People with diabetes need resources in the community to prevent returning to the hospital. Moreover, nurses and healthcare professionals need to be able to connect the patient with the necessary resources. However, a majority of the participants were not aware of community resources available for this population. According to Tung and Peek (2015), successful diabetes management and prevention programs connect healthcare programs and local community resources. Healthcare organizations can start by evaluating current resources in the community and form community partnership to ensure the support for people living with diabetes is available. Conversely, healthcare organizations need to work with community leaders to develop and support the resources needed if the resources are not available or are limited.

Implications for Nursing Research

The NLN education research priorities have challenged nurse researchers to further the science of nursing education by conducting robust studies with reliable and detailed methodologies that generate a new understanding of a phenomenon (NLN, 2016). According to Minkovitz (2016), research is meaningful when it promotes the best science. Perhaps most importantly, it contributes to the evidence that is translated to inform policy and practice to improve health. Meaningful research starts with posing the right question that allows investigators to build on previous discoveries and makes it more likely that peers, funders, and the public will find the research significant and worthy of support (Minkovitz, 2016).

The aim of research is to have a real-world impact, which is why it is vital to focus on gaps in the literature (Peters, 2018). The results of the study have contributed to nursing research by generating new knowledge regarding nurses' perceptions that impact self-efficacy in caring

for patients with diabetes. Furthermore, this study fills the existing gap in the literature surrounding this phenomenon and exemplifies the need for future research to improve nurses' self-efficacy in caring for this population. Leach and Tucker (2018) concluded that if the gap reflects a disconnect between best practice and actual practice, then such a divide could result in the delivery of care that is either superfluous, ineffective, inefficient, or inconsistent with practices elsewhere could result in sub-standard patient care. The new knowledge created from this study can assist with future research focusing on several findings from the study, including examining biases towards this population, improving undergraduate education regarding diabetes management, improving organizational support for nurses, and improving community resources available to people living with diabetes.

Implications for Policy

The nursing profession is at a significant crossroads wherein nurses and nurse leaders must be well informed in political, economic, and legislative trends to harness the profession's power to navigate forces that may put at risk its central mission to serve society (Duncan et al., 2015). Nurses need to understand their potential in the development of policies (Catallo et al., 2014). Nursing state organizations like the FNA provide nurses with resources and opportunities to have their voices heard. For example, the FNA Special Interest Groups (SIGs) are state-level groups of FNA members interested in making a difference related to a specific issue (FNA, 2018). Some of the SIGs include Ethics Special Interest Group, Health Literacy Special Interest Group, and Health Policy Interest Group. At this historical juncture, nurses must understand the implications of legislative and organizational regulatory changes to ensure the profession contributes to full capacity in achieving health and health equity. For nursing to have a voice,

nursing leaders need to support involvement in professional nursing organizations (Schroeder, 2013).

Effective policies must be enacted to address chronic diseases such as diabetes at a local, state, and federal level (Herman & Cefalu, 2015). Healthcare policies need to be reevaluated since the burden of diabetes is not decreasing, and the onus is expected to increase both societally and financially (Panton et al., 2018; Shaikh et al., 2018). The prevalence of diabetes in the state of Florida has more than doubled in the past 20 years, with over 2.4 million people living with diabetes and over 5.8 million with prediabetes (Florida Diabetes Advisory Council, 2019).

The findings of this study revealed a deficiency in patients' knowledge and compliance regarding their disease. Today's complex healthcare setting is a fast-paced environment where patients are discharged quickly, not leaving much time for education to be delivered or full comprehension by the patient. According to the CDC's National Diabetes Statistics Report 2020, in 2016, a total of 7.8 million hospital discharges were registered with diabetes listed anywhere in the diagnosis. Policy advocacy is crucial to address factors that shape population health (Williams et al., 2018). Healthcare providers, such as nurses, are in the perfect position to advocate for policies that support public health and clinical interventions for people living with diabetes (Moulton et al., 2013). Nurses can join forces with the American Diabetes Association (2020) and support their Federal Legislative and Regulatory Priorities, such as increasing overall funding dedicated to diabetes research, programs, and clinical translation of research.

Limitations

Study limitations are possible circumstances or problems that could arise and create credibility issues for the study outcomes (Theofanidis & Fountouki, 2018). While potential

limitations were considered prior to the study and plans to mitigate any weaknesses were addressed, limitations to the study did exist.

Recruitment Plan

The research study was conducted at two acute care hospitals within the same healthcare organization in the Southeastern United States. One limitation to the design was the recruitment plan of the study. Only two hospitals were selected for the recruitment of participants. Due to the Coronavirus disease 2019 (COVID-19) pandemic, access to conduct research within the healthcare organization was suspended for all students. Once the deferral was lifted, the recruitment plan was implemented. However, hospitals in the Southeastern United States lifted restrictions at various dates allowing students to conduct research within their organization. Selecting sites from multiple healthcare organizations would have allowed the principal investigator to implement the recruitment plan sooner.

Sampling Plan

A purposive criterion-i and convenience sampling strategies were implemented in the study. One limitation to criterion-i sampling is the failure to capture the experiences of other groups that could have a role in the phenomenon that is trying to be understood or described (Palinkas et al., 2016). The selection of the two hospitals was a limitation to the study as nurses from other geographic locations may experience different observations that influence inpatient diabetes management. The sample size was small, with eight participants; however, qualitative samples are often small. The researcher is not attempting to generalize the findings in qualitative research but gather data that results in a significant depth of information on a phenomenon (Ellis, 2018).

The interviews with the participants were completed utilizing the Zoom platform, which proved highly convenient and efficient. With this technology, the study could have been expanded to other parts of the United States. Broadening the diversity of the sample would have brought to fruition additional perceptions that perhaps would contribute to a more in-depth description of the results.

Social Desirability Bias

Participants can change their answers or respond to questions to accommodate or impress the researcher. Social desirability bias occurs when participants try to present the best version of themselves to the researcher (Farnsworth, 2019). Social desirability was first introduced as a measure of an individual's need for social approval and has been defined as a personality characteristic that can affect how one responds (Krumpal, 2013; Wanat et al., 2020). The principal investigator is the nurse scientist at the organization in which the study was conducted. The position is not a leadership position within the organization, and none of the participants worked in the same department as the principal investigator. However, participants could have altered their responses due to the principal investigator's role as a nurse scientist, even though most of the participants and principal investigator had never met before the interviews.

Confirmability is the capacity to control research bias and maintain objectivity in a research study (Polit & Beck, 2017). The principal investigator ensured confirmability by providing a trajectory of how the data was collected and what interpretations were made. Additionally, several months before receiving IRB approval, the principal investigator started a reflexive journal to evaluate personal assumptions and biases. Also, after each interview, the principal investigator continued journaling about the interview process and explored opportunities to improve the next interview. The principal investigator ensured the participants'

identity was kept confidential and conducted the interviews in a nonjudgmental manner. Nonetheless, social desirability bias is a possible limitation to the study.

Coronavirus Disease 2019 (COVID-19) Pandemic

A limitation to the study was that nurses were still going through the stress of dealing with the COVID-19 pandemic when recruitment began. The two hospitals experienced a tremendous number of COVID-19 positive cases, and nurses, especially medical-surgical nurses, caring for COVID-19 patients, were overwhelmed. Nurses at both hospitals are accustomed to participating in research. Nevertheless, participating in research was not a priority for countless nurses. The time it took to recruit participants was longer than expected; however, it continued until saturation was reached.

Additionally, IRB approval from the healthcare organization took longer than expected as COVID-19 studies took priority over non-COVID-19 studies. The timing of this study and the pandemic was not something the principal investigator could control. However, it is worth noting and understanding the impact the pandemic played in this study.

Recommendations for Future Research

The overarching purpose of this study was to explore and describe medical-surgical nurses' perceptions of self-efficacy related to caring for patients living with diabetes. As a result of conducting this study, eight additional focus areas for future research were identified:

1. A comparative study of the perceptions of nursing students, nurses, and faculty of implicit biases towards patients living with diabetes is warranted.
2. Explore the efficacy of increased clinical hours and simulation training surrounding patients with diabetes among undergraduate nursing students.
3. Explore the effectiveness of the evidence-based curriculum surrounding diabetes management.

4. A correlational study examining the relationship between direct care nurses' years of experience, educational status, and certification status on calibrated levels of knowledge and self-efficacy in diabetes management would provide additional data on the topic
5. Explore and describe current community resources available and identify possible barriers for people living with diabetes.
6. The lived experience of hospitalized patients living with diabetes in acute care.
7. Community research: The lived experience of people living with diabetes.
8. A correlational study to explore predictors of health literacy, compliance, and patient outcomes among people living with diabetes.

Chapter Summary

The mission of research is to generate new knowledge (Considine et al., 2017). Chapter five included a discussion and interpretation of the study findings with a conceptional understanding of how Bandura's self-efficacy served as a foundation in guiding the study from conception to data analysis. Four major themes emerged from the data analysis: (a) educational preparation, (b) biases towards patients, (c) current clinical environment, and (d) patients' behaviors affect nurses' emotions. Additionally, six subthemes were identified: (a)-hands-on experience, (b) nursing curriculum, (c) patient knowledge gap, (d) patient compliance, (e) valuing organizational support, and (f) increasing demands. Describing medical-surgical nurses' perceptions on the influences that impact self-efficacy related to caring for patients living with diabetes led to recommendations for nursing education, practice, research, and public policy.

Diabetes is a global public health crisis that is not going away. About 88 million (one out of three) American adults have prediabetes (CDC, 2020). Patients living with diabetes who do not receive optimal care may have devastating outcomes. Direct care nurses are a vital

component in the management of patients living with diabetes and must be competent to provide optimal diabetes care. This study was significant as it described nurses' perceptions of the influences that affected self-efficacy in caring for patients living with diabetes. The findings can be utilized to implement interventions that will improve self-efficacy among medical-surgical nurses resulting in optimal patient outcomes. Furthermore, as a result of conducting this study, eight additional focus areas for future research were identified to generate further new knowledge surrounding the phenomenon of diabetes care and optimistically enrich the lives of people living with diabetes.

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Appendix A – Recruitment Flyer

NURSING RESEARCH

Med-Surg Nurses

Follow up session

Self-Efficacy: Nurses' Perceptions of Caring for Patients Living with Diabetes

- Since you participated in an interview, the Principal Investigator would like to invite you to take part in a follow up session to review the transcripts for accuracy.
- A session will last about 30 minutes.
- Please contact Victoria Y. McCue to schedule a time that is convenient for you.

Thank you!

NOVA SOUTHEASTERN UNIVERSITY | NSU Florida

PRINCIPAL INVESTIGATOR:
VICTORIA Y. MCCUE, MSN, RN, CPN
Nova Southeastern University
PhD Nursing Student

CONTACT INFORMATION:
If you have any further questions, please do not hesitate to contact **Victoria Y. McCue:** [redacted]

Appendix B – Scripted Announcement

Good day!

My name is Victoria McCue, and I am a Ph.D. student at Nova Southeastern University and the principal investigator on an IRB-approved research study that will be taking place at XXXXX.

The study is titled: *Self-Efficacy: Nurses' Perceptions of Caring for Patients Living with Diabetes.*

The purpose of this qualitative descriptive study is to explore and describe medical surgical nurses' perceptions of self-efficacy related to caring for patients living with diabetes.

Medical-surgical nurses who provide direct patient care at least 50% of their work time will be invited to participate in an interview.

Your participation is voluntary, and your identity will be kept confidential.

Flyers are posted on each of the med-surg units with further information regarding the study. Additionally, my contact information is posted on the flyers.

If you have any questions, please do not hesitate to reach out to me. My email address is XXXXX.

Thank you for your time, and have a wonderful day.

Appendix C – Informed Consent

General Informed Consent Form
NSU Consent to be in a Research Study Entitled
Self-Efficacy: Nurses' Perceptions of Caring for Patients Living with Diabetes

Who is doing this research study?

College: Ron and Kathy Assaf College of Nursing
Principal Investigator: Victoria Y. McCue, MSN, RN, CPN
Faculty Advisor/Dissertation Chair: Jacqueline Marshall, Ph.D., RN, MSN/Ed, MPH, CNE
Site Information: XXXXX
Funding: Unfunded

What is this study about?

This is a research study, designed to test and create new ideas that other people can use. The purpose of this research study is to explore and describe medical-surgical nurses' perceptions of self-efficacy related to caring for patients living with diabetes. Diabetes constitutes a growing global public health crisis affecting 415 million people worldwide. With the number of admitted patients with diabetes growing, direct care nurses are a vital component in the management of patient living with diabetes. The research has shown that this population of inpatients do not always receive optimal care. Therefore, this study is needed to understand nurses' perceptions on the influences that impact self-efficacy in caring for patients living with diabetes on a medical-surgical unit.

Why are you asking me to be in this research study?

You are being asked to be in this research study because you are a medical-surgical nurse who cares for patients living with diabetes. About 5-25 participants will be interviewed for this study.

What will I be doing if I agree to be in this research study?

While you are taking part in this research study, you will be asked to participate in an interview either face to face or via a Zoom platform with the principal investigator (PI). Only nurses from medical surgical units who provide direct care at least 50% of their work time are invited to participate. Before we begin the interview, you will have had time to read this informed consent form. The PI will review and answer any questions you might have regarding the consent form. Once you have voluntarily agreed to take part in this study, you will sign and date the last page of the consent form. If you have chosen a face to face interview, you will give the PI the last page of the informed consent. If you have chosen a Zoom interview, you will email a copy of the last page to the PI. Before the interview begins, you will be asked to complete a demographic survey consisting of seven questions. If the interview is taking place in person, you may complete the demographic survey yourself. If the interview is taking place via a Zoom platform, the PI will ask you the questions. Once the demographic survey is completed, the PI will start the interview.

You will be asked to come up with a pseudo name which the PI will use instead of your real name.

During the interview, you will be asked five open-ended questions for which the PI will have possible follow up questions depending on your response. The five questions are:

1. Describe your past experiences caring for patients living with diabetes?
2. Describe how your nursing education prepared you for caring for patients living with diabetes?
3. How are you supported on your unit in caring for patients with diabetes?
4. Who are the role models in delivering optimal diabetes care on your unit?
5. Describe how you feel when caring for patients with diabetes?

Each question should take approximately 10 minutes. The interview is scheduled for 60 minutes and will not last longer than 90 minutes.

The interview will be audio-recorded. Once the audio-recordings from the interview are transcribed verbatim, the PI will invite you to a follow-up session to review the transcripts. The invitation to attend a follow up session will be sent via email to you from the PI. It is helpful if you can attend a session to review and verify the transcripts for accuracy; however, it is not mandatory.

Are there possible risks and discomforts to me?
This research study involves minimal risk to you. To the best of our knowledge, the things you will be doing have no more risk of harm than you would have in everyday life. There is a rare risk of a breach of confidentiality. The PI has put measures in place to minimize this from happening. Your name will not be included in the interview. The pseudo name that you select will be used to identify you as a study participant.

What happens if I do not want to be in this research study?
You have the right to leave this research study at any time, or not be in it. If you do decide to leave or you decide not to be in the study anymore, you will not get any penalty or lose any services you have a right to get. If you choose to stop being in the study, any information collected about you **before** the date you leave the study will be kept in the research records for 36 months from the end of the study but you may request that it not be used.

What if there is new information learned during the study that may affect my decision to remain in the study?
If significant new information relating to the study becomes available, which may relate to whether you want to remain in this study, this information will be given to you by the PI. You may be asked to sign a new Informed Consent Form if the information is given to you after you have joined the study.

Are there any benefits for taking part in this research study?
There are no direct benefits from being in this research study. The information learned from this study may help future development of interventions that will improve nurses' self-efficacy while caring for patients living with diabetes.

Will I be paid or be given compensation for being in the study?
You will not be given any payments or compensation for being in this research study.

Will it cost me anything?
There are no costs to you for being in this research study.

How will you keep my information private?
Information we learn about you in this research study will be handled in a confidential manner, within the limits of the law and will be limited to people who have a need to review this information. Participation in this study is entirely voluntary and confidential. Data will be collected confidentially; no identifying information will be requested on the demographic survey. The PI will only refer to you using a pseudo name.

The study data will be available to the PI, the Institutional Review Board, and other representatives of this institution, and any regulatory and granting agencies (if applicable). If the results of the study are published in a scientific journal or book, you will not be identified. The study data will be maintained on a password protected computer. The interviews will be digitally audio-recorded and transcribed verbatim. The transcripts, audio recordings, and demographic data will be kept in a

locked cabinet in the PI's office for 36 months and then destroyed by shredding all data documents.

Will there be any Audio or Video Recording?
This research study involves audio recording. This recording will be available to the researcher, the Institutional Review Board, and other representatives of this institution. The recording will be kept, stored, and destroyed as stated in the section above. Because what is in the recording could be used to find out that it is you, it is not possible to be sure that your identity will always be kept confidential. The researcher will try to keep anyone not working on the research from listening to the recording.

Whom can I contact if I have questions, concerns, comments, or complaints?
If you have questions now, feel free to ask the PI. If you have more questions about the research, your research rights, or have a research-related injury, please contact:
Primary contact:
Victoria Y. McCue, MSN, RN, CPN can be reached at (786) 467-3406 or cell XXXXX.
Research Participants Rights

For questions/concerns regarding your research rights, please contact:
Institutional Review Board
Nova Southeastern University
(954) 262-5369 / Toll Free: 1-866-499-0790
IRB@nova.edu

You may also visit the NSU IRB website at www.nova.edu/irb/information-for-research-participants for further information regarding your rights as a research participant.

All space below was intentionally left blank.

Research Consent & Authorization Signature Section

Voluntary Participation - You are not required to participate in this study. In the event you do participate, you may leave this research study at any time. If you leave this research study before it is completed, there will be no penalty to you, and you will not lose any benefits to which you are entitled.

If you agree to participate in this research study, sign this section. You will be given a signed copy of this form to keep. You do not waive any of your legal rights by signing this form.

SIGN THIS FORM ONLY IF THE STATEMENTS LISTED BELOW ARE TRUE:

- You have read the above information.
- Your questions have been answered to your satisfaction about the research.

Adult Signature Section

I have voluntarily decided to take part in this research study.

Printed Name of Participant	Signature of Participant	Date
Printed Name of Person Obtaining Consent and Authorization	Signature of Person Obtaining Consent & Authorization	Date

Appendix D – Demographic Survey

The following questions will be used to provide background information for the research study. Please select the best answer that describes you. Please mark only one answer with a check next to your selection.

1. Age
   20-30 years ____
   31-40 years ____
   41-50 years ____
   51+ years _____

2. Gender:
   Male _____
   Female ____

3. Years of experience as a registered nurse (RN):
   Less than 3 years ____
   4-10 years _____
   11-20 years ____
   21+ years _____

4. Years of experience working on a medical-surgical unit:
   Less than 3 years ____
   4-10 years _____
   11-20 years ____
   21 + years _____

5. Educational Degree (check your highest level achieved)
   Diploma _____
   Associate Degree Nurse (ADN) _____
   Bachelor of Science in Nursing (BSN) _____
   Master of Science in Nursing (MSN) _____ /Focus: Education ___ Leadership ___ APN ___
   Other Bachelors (State) _____
   Other Master Degree (State) _____
   Doctoral of Nursing Practice (DNP) _____
   Doctor of Philosophy in Nursing (PhD) _____

6. Do you have your Certification in Medical-Surgical Nursing? **Yes**_____ **No** _____
   If you answered No, which certification do you hold? _____

7. Have you had any training in Diabetes Management? **Yes**_____**No**_____
   If you answered Yes, please describe the training you received. _____
   _____
   _____

Appendix E – Interview Questions

Interview Questions	Bandura's Self-Efficacy Source
1. Describe your past experiences caring for patients living with diabetes? 2. Describe how your nursing education prepared you for caring for patients living with diabetes? *(Possible follow up questions):* ➢ Why is it difficult to care for this population? Elaborate on the barriers. ➢ Why do nurses not have the knowledge and/or confidence to care for this population? ➢ Does confidence in caring for patients living with diabetes come from the number of years working as a med-surg nurse?	Performance Outcomes
3. How are you supported on your unit in caring for patients with diabetes?	Verbal Persuasion
4. Who are the role models in delivering optimal diabetes care on your unit? *(Possible follow up questions):* ➢ Have you learned from them? Do they make you feel confident? ➢ If so, how and what have you learned?	Vicarious Experiences
5. Describe how you feel when caring for patients with diabetes? *(Possible follow up questions):* ➢ Do you feel nervous?	Physiological Feedback

Appendix F – Follow-up Session Flyer

NURSING RESEARCH

Med-Surg Nurses

Follow up session

Self-Efficacy: Nurses' Perceptions of Caring for Patients Living with Diabetes

- Since you participated in an interview, the Principal Investigator would like to invite you to take part in a follow up session to review the transcripts for accuracy.
- A session will last about 30 minutes.
- Please contact Victoria Y. McCue to schedule a time that is convenient for you.

Thank you!

NOVA SOUTHEASTERN UNIVERSITY | NSU Florida

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PhD Nursing Student

CONTACT INFORMATION:

If you have any further questions, please do not hesitate to contact **Victoria Y. McCue:**

[redacted]